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**Beethoven's Double Bass Parts:
The Viennese Violone and the Problem of Lower Compass**

by

Stephen George Buckley

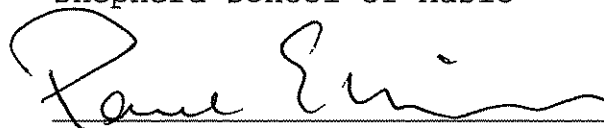
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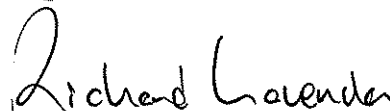
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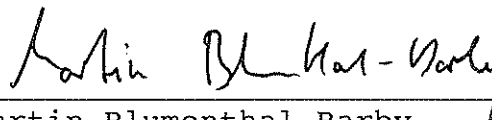
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ABSTRACT

Beethoven's Double Bass Parts: The Viennese Violone and the Problem of Lower Compass

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Stephen George Buckley

This study addresses the discrepancy between the range of Beethoven's double bass parts and the instrument or instruments in use in Vienna in his day. Scholars and musicians have complained about Beethoven's apparent disregard for the instrument's capabilities since the middle of the nineteenth century. A systematic examination of Beethoven's orchestral writing for the double bass shows that this reputation is undeserved. In fact Beethoven paid close attention to the lower compass of the double bass throughout his orchestral writing: a clear boundary of F is observed to op. 55, and thereafter E, though F still obtains in some late works. Beethoven's observance of the F boundary suggests that he was writing for the Viennese five-stringed violone, and not the modern form of the instrument, as has previously been assumed in scholarship. Other evidence pointing to the use of this instrument is presented.

Some of Beethoven's bass parts between op. 55 and op. 125 do in fact descend to C (sounding C1); yet there is no evidence supporting the existence of a double bass instrument capable of C1 in Beethoven's day. Possible

explanations for these violations of the compass of the double bass are discussed. These focus on the possibility of simple proofreading error, and on evidence for the unwritten practice of reinforcing the double bass with one or more contrabassoons. The contrabassoon in Beethoven's day had a lower compass of C1, and Vienna was an early center for its production and use. Analysis of the bulk of Beethoven's double bass parts for their range is given. Emphasis in this analysis is given to instances where Beethoven demonstrates a clear awareness of the compass of the instrument. Out-of-range pitches are compiled in table form.

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I owe my deepest gratitude to my family, without whose indulgence and support, both moral and material, this project would most certainly not have come to fruition. It is with great pleasure that I dedicate this work to my children, Grace Catherine and George Frederick Buckley, who are not aware of how much they have sacrificed for its completion. I suspect that they will be very glad it is finished.

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LIST OF ABBREVIATIONS

- GA** *Ludwig van Beethovens Werke: Vollständige kritisch durchgesehene überall berechtigte Ausgabe.* Leipzig: Breitkopf & Härtel, 1862.
- NA** *Beethoven: Werke: neue Ausgabe sämtlicher Werke.* Ed. Joseph Schmidt-Görg and others. Munich: G. Henle Verlag, 1961-.
- S** *Ludwig van Beethoven: Symphonies 1-9, Urtext.* Ed. Jonathan Del Mar. Kassel: Barenreiter, 1996-2000.

EDITORIAL POLICIES

With few exceptions, pitch descriptions refer to written, and not sounding pitch throughout this work. The intention of this policy is to simplify discussions, since the matter at hand is generally the written pitch. I assume throughout that the reader understands that the double bass sounds an octave lower than the written pitch. Cases where the sounding pitch is referred to will be obvious in their context.

The following system of pitch designation is employed: middle c is "c'"; an octave below middle c is "c"; two octaves below middle c is "C"; three octaves below middle c is "C1". For example, the tuning of the double bass is described as E A d g, even though it sounds E1 A1 D G. However, the lower compass of the contrabassoon, for example, is described as C1. I use the term "written unison" to describe both the condition of octave doubling that normally obtains between and eight-foot and sixteen-foot bass instruments, and the existence of only a single written line in the bass part, as opposed to separate lines for cello and double bass.

INTRODUCTION

Since the middle of the nineteenth century, scholars and musicians have complained about Beethoven's orchestral writing for the double bass. Central to these complaints are the appearance of pitches that fall outside the lower compass of the instrument. Some of Beethoven's double bass parts do in fact descend to C, sounding an octave below the open C-string of the cello. Yet double bass instruments in use in Vienna in the early nineteenth century are supposed by the scholarly literature to have had a lower compass of E. Despite modern assertions of the capability of C1 in the classical period,¹ there is no evidence to support the existence of a stringed bass instrument capable of sounding C1 in Beethoven's time.² In this study I will examine the circumstances and evidence surrounding this discrepancy, and attempt to address these complaints systematically. I will show that the Viennese five-stringed double bass (commonly referred to as the violone), with its lower compass of F and the so-called "D Major" tuning (F A d f# a), was in fact still in use in Vienna in Beethoven's time, and that his double bass parts coincide very closely with the capabilities of that instrument. I will then present possible explanations for those out-of-range pitches that do appear in Beethoven's bass parts. Finally, I will provide a close analysis from this perspective of the bulk of Beethoven's orchestral music itself.

¹ H.C. Robbins Landon, *The Symphonies of Joseph Haydn*, (London: Universal Edition, 1955). 121; Alfred Planyavsky, *Geschichte des Kontrabasses* (Tutzing: Hans Schneider, 1970), 178; Bathia Churgin and Joachim Braun, *A Report Concerning the Authentic Performance of Beethoven's Fourth Symphony, op. 60* (Ramat-Gan: Bar-Ilan University, 1977), 50-1.

² James Webster, "Violoncello and Double Bass in the Chamber Music of Haydn and his Viennese Contemporaries, 1750-1780," *Journal of the American Musicological Society* 29 (1976): 421; Adam Carse, *The Orchestra From Beethoven to Berlioz*, (Cambridge: Heffer and Sons, 1948), 395; David Levy, "The Contrabass Recitative in Beethoven's Ninth Symphony Revisited," *Historical Performance* 5 (Spring 1992), 11.

Most of Beethoven's orchestral music was written between 1800 and 1815. Nearly all of it was performed for the first time in Vienna, and Beethoven was personally involved with the arrangements for all of these performances. Vienna was unquestionably Beethoven's musical milieu, and he must have known both its practices and its musicians intimately.³ In fact, his orchestral works up to op. 50 (Piano Concertos 1-3, Symphonies 1 and 2, Violin Romances 1 and 2, and the Overture to *The Creatures of Prometheus*) maintain a clear and consistent lower boundary of F in both their double bass and cello parts. Certain later works also observe the same boundary, although the capability of at least E seems to be assumed from op. 55 onward. Beethoven's observance of this boundary strongly suggests that he was writing for the Viennese five-string, or violone. Beethoven was merely following tradition in this respect; the same convention in bass-part writing is clearly visible in Haydn's music, and has been explicated by James Webster and Sara Edgerton.⁴ The Viennese five-string itself has been studied extensively in its solo and concertante roles, but its use in the orchestra has not been as thoroughly considered by modern scholarship. In chapter one I will set forth evidence that this

³ The bass player most frequently mentioned in connection with Beethoven's music is certainly Domenico Dragonetti (1763-1846). This is somewhat misleading. A great deal has been made of the famous virtuoso's visit to Vienna in 1799, and the allegedly deep impression made on the composer by his reading of one of the op. 5 cello sonatas. Legend has it that Dragonetti's extraordinary capabilities emboldened Beethoven to write as he did for the instrument in his orchestral music, and even that the recitatives in the Ninth Symphony were written for Dragonetti to play by himself. Evidence from Beethoven's conversation notebooks, however, indicates that this was in no way the composer's intention. In fact Dragonetti was not a part of Viennese musical culture in any way, and his own practices cannot be said to reflect those of musicians in Vienna in the late eighteenth and early nineteenth centuries. See Fiona Palmer, *Domenico Dragonetti in England (1794-1846): The Career of a Double Bass Virtuoso* (Oxford: Clarendon, 1997), 177-84; Levy, "Contrabass Recitative," 11-12.

⁴ See Webster, "Violoncello and Double Bass"; and Sara Edgerton, "The Bass Part in Haydn's Early Symphonies: A Documentary and Analytical Study" (DMA Thesis, Cornell University, 1989).

instrument was still in use in Vienna in 1800, and in connection with performances of Beethoven's music. This evidence will be presented in the context of a discussion of the state of the instrument—its forms, tunings, and performance practices—during the mid- to late-eighteenth century, in order to establish a context for Beethoven's deployment of it at the beginning of the nineteenth.

Beethoven's conspicuous avoidance of the lowest part of the cello's range in this repertoire, from E down to its resonant open C string, also strongly suggests the accommodation of an instrument with a lower compass of F. This practice is also observable in Haydn's orchestral music. Webster and Edgerton have shown that in order to maintain octave doubling in the sixteen-foot register, Haydn routinely sacrifices the lowest portion of the cello's range in deference to the double bass's inability to descend lower than F. On the other hand, as soon as the violone is either absent or rises above the cello to play concertante role, Haydn is then free to make use of the deepest portion of the cello's range, and indeed he does so in those situations. The same phenomenon can be observed in Beethoven's music. As further testament to purposeful nature of this avoidance, it is notable that Beethoven uses the bottom of the cello register freely in music from this same period where the double bass is not present (e.g., the string quartets of op. 18, and the op. 5 cello sonatas); it is not as though he is not aware of the effectiveness of this part of the cello's register. Furthermore, the lowest portions of the ranges of the violin and viola are used extensively and to great effect. Therefore, the complete absence of this E to C register from, for example, the First and Second Symphonies, is conspicuous. Accommodation of the lower compass of the double bass is the only logical explanation for this absence.

Beginning with the Eroica Symphony, op. 55, Beethoven writes below F for the double bass with increasing frequency. Yet no corresponding development in double bass technology explains this change in Beethoven's writing for the instrument. It is implausible to suggest that the composer would simply have forgotten about or neglected the limitations of the double bass in his Third Symphony and forward, when he had so clearly accepted them in earlier music. How can the appearance of these pitches then be accounted for? Possible explanations fall into two different categories, both of which I will address in chapter two. Briefly, some instances appear to be simple oversights in proofreading, while other instances might be explained by the practice of reinforcing the double basses with one or more contrabassoons. Interaction between these two categories is also highly likely. The contrabassoon in Vienna in 1800 had a lower compass of C (sounding C1; Beethoven even writes low B-flat for it in op. 125); Beethoven may in fact have written these notes knowing that the contrabassoon—which would have played from the same part as the double basses—would be present, and knowing that double bass players would either transpose unplayable notes or leave them out. Beyond these two explanations, some instances can be explained by the practice of re-tuning the bottom string of the double bass as necessary, for single movements or entire works. According to Josef Focht,⁵ this practice was employed in the last years of the eighteenth century and the first decades of the nineteenth. Beethoven seems to have been particularly fond of using it in slow movements, where E-flat is often assumed for double bass. This practice will be discussed in chapter one, in connection with performance practice issues specific to the double bass; works where the

⁵ Josef Focht, *Der Wiener Kontrabass: Spieltechnik und Aufführungspraxis, Musik und Instrumente* (Tutzing: Hans Schneider, 1999), 35–36.

practice comes into play will be discussed in the analysis presented in the last chapter.

Chapter three will provide an analysis of the bass part of each work included in the study. These include the nine Symphonies; five Piano Concertos; the Violin and Triple Concertos; two Romances for Violin and Orchestra; *Prometheus*, *Coriolan*, *Leonore* Nos. 2 and 3, *Egmont*, *The Ruins of Athens*, *Namensfeier*, *King Stephen*, and *Die Wiehe des Hauses* Overtures; and the Choral Fantasy. My methodology for this analysis is based on the "lowest note" procedure used by Webster and Edgerton. Citing the insufficiency of documentary evidence to conclusively determine the bass instrument scoring of Haydn's early works, Webster proposes using the notated range of the bass part, and more specifically its lower boundary, as a means for answering this question (Webster's work concentrates on Viennese chamber music, where the vagueness of the scoring of the bass makes this question particularly acute). Having established in a manner he deems "airtight" that the stringed members of Haydn's basso ensemble were the cello and the Viennese violone, he posits that "any extensive solo cello part will include, as an important part of the tessitura, pitches below F, and especially the 'grateful' open low C. But a solo double bass part should not venture below notated F."⁶ Webster credits Both Bär and Meier with earlier examples of applying this method, saying that it resembles "the familiar method of dating keyboard works by means of the registral limits of known instruments."⁷ In chapter three each of Beethoven's works mentioned above will be considered according to these parameters, highlighting instances where Beethoven demonstrates an awareness of the compass of the double bass by "writing around" the lower limitation. Each

⁶ Webster, "Violoncello and Double Bass," 419; 428.

⁷ *Ibid.*, n. 62

note outside the lower boundary of F, and later E, will be presented in table form.

A significant portion of the problem addressed in this study is directly impacted by the condition of primary sources; sources for Beethoven's music are well known to be, at best, problematic. Study of source materials is, unfortunately, outside the scope of this study. I have not attempted to improve upon, nor do I take issue with, the work of scholars who have prepared the published editions of Beethoven's works. I take the position that the published editions reflect Beethoven's intentions, and I also hold Beethoven responsible as "editor" of his bass parts. I realize, however, that neither of these assumptions are safe ones. The primary sources for Beethoven's music reflect a complicated process of the various stages of revision and publication, and how much influence individual copyists, editors, and performers have had in producing this corpus of source material is virtually impossible to know. I have therefore accepted the published editions as "fact." Further study of source materials with a specific view to the problems raised in this study may provide more concrete support for the explanations I propose here, but it is also possible that definitive solutions to the problem outlined here are simply out of reach.

CHAPTER 1

CONTEXT: INSTRUMENTS, TUNINGS, AND PERFORMANCE PRACTICE

1. Introduction

This chapter will provide a brief summary of eighteenth-century sources referring to the double bass and its forms, tunings, and norms of performance practice, emphasizing those most relevant in Vienna, in order to establish a context for Beethoven's deployment of it at the turn of that century and the beginning of the next. The Viennese five-stringed violone will be discussed specifically, paying particular attention to its role in orchestral situations both prior to and contemporary with Beethoven. This will be followed by discussions of the eighteenth-century "basso" part and associated ensemble practices, and by two performance-practice issues specifically related to the double bass: variable tuning of the bottom string, and the practice of simplification. Discussion of the orchestral application of the Viennese violone will of necessity concentrate on the practices of Haydn and his ensemble at Esterházy, primarily as illuminated and described by James Webster and Sara Edgerton. While a good deal of evidence exists concerning orchestral size, proportions, and seating in this era, there is little documentary evidence describing specific bass instruments and their tunings. Nevertheless, I will present evidence demonstrating the exclusive use of this instrument in one Viennese ensemble in 1800—an ensemble associated with early performances of Beethoven's music.

2. Background and Context

In the early years of the nineteenth century, Beethoven's orchestral works presented a new level of technical challenge for orchestral musicians. Modern double bass players continue to find them problematic. Already in 1849, the prominent Darmstadt double bass player August Müller published a series of articles¹ treating the problems presented by Beethoven's nine symphonies. In 1975, Stuart Sankey wrote, "the meaning of Beethoven's legendary (and perhaps apocryphal) remark about not giving a damn for some miserable fiddle is all too often made abundantly clear to the conscientious double bass player."² Sankey published an article similar in purpose to Müller's, where he proposes alterations to the bass parts of Beethoven's symphonies, "to give a better sound to these passages, and to ease our burden."³ The issues addressed in these articles consist in large part of problems created by the appearance of pitches lying outside the lower compass of the instrument. Referring to a passage in Beethoven's Sixth Symphony, Hector Berlioz wrote:

It is interesting to note that Beethoven here, as in many other pieces, gave the double-basses notes which they cannot execute. One might conclude from this that the orchestra for which he wrote possessed double-basses descending as low as the C an octave below the violoncello C. Such instruments are no longer to be found today.⁴

At the end of the nineteenth century, Albert Lavignac wrote:

¹ August Müller, "Über den Contrabass und dessen Behandlung nebst den Hinblick auf die Symphonien von Beethoven," *Neue Zeitschrift für Musik* 30 (Jan-Mar 1849), 9-11, 15-18, 28-32, 65-7, 82-3, 109-13.

² Stuart Sankey, "On the Question of Minor Alterations in the Double Bass Parts of Beethoven," *International Society of Bassists Journal* 1, no. 4 (1975), 95.

³ Sankey, "Minor Alterations," 96.

⁴ Berlioz, *Treatise on Instrumentation*, 120 (Strauss edition).

Many classical masters, Gluck, Haydn, Mozart, and even Beethoven among them, wrote double bass parts descending to low C; what can we conclude? That in their time in Germany double basses were tuned differently than now? This is unlikely, no author mentioning that fact. To believe in a collective and persistent negligence on their part? This is yet more unbelievable. This is a question I have been unable to clarify.⁵

But is it really the case that Beethoven either misunderstood or disregarded the capabilities of this instrument so completely? Was Beethoven "simply thinking in abstract terms and not interested in the physical limitations of the actual instruments which would be performing his music during his life," as Stephen Sas has suggested?⁶ Analysis of Beethoven's double bass parts shows that in fact he accommodated the limitations of the instrument's range with care up to op. 55. Thereafter, some works contain pitches falling outside the compass of the double bass, particularly in the symphonies. Still, certain late works (including the Eighth Symphony, op. 93) also demonstrate careful accommodation for the compass of the instrument. Beethoven seems to have followed developing trends in the lower range of the instrument—clearly, he wanted to extend the bottom register of the orchestra—and this is frequently visible in the music itself. For example, he seems to assume a lower boundary of E rather than F from at least op. 56 onward, reflecting a changing situation for the double bass: use of the Viennese violone was undeniably on the wane in the early years of the nineteenth

⁵ Albert Lavignac, *La musique et les musiciens*, (Paris: 1898). Taken From Paul Brun, *A New History of the Double Bass* (Villeneuve d'Ascq: Paul Brun Productions, 2000), 149. See also Stephen Sas, "A History of Double Bass Performance Practice: 1500-1900," (DMA Thesis, The Juilliard School, 1999), 117; François Auguste Gevaert, *Nouveau Traite d'instrumentation*, (Paris: Lemoine & Fils, 1885), 63-4; Henri Lavoix, *Histoire de l'instrumentation*, (Paris: 1878); Jeff Weisner, "Some Thoughts on Using the Extension in the Orchestra," *International Society of Bassists Journal* 34, no. 2 (2010): 57-61; Müller, "Über den Contrabass."

⁶ Sas, "Double Bass," 117.

century. However, it is important to note that the lower boundary of E does not immediately indicate the modern, fourths-tuned version of the double bass; nor does it preclude the Viennese five-stringed instrument, since the tuning E A d f# a is attested in contemporary sources.⁷ The notes E, E-flat, and D were also playable on the Viennese violone using scordatura of the bottom string, though the effectiveness of these pitches is questionable. Additionally, some evidence suggests a contemporary and unwritten practice of using contrabassoon to reinforce the double bass in the sixteen-foot octave, which could mean that pitches below E may have been intended for contrabassoon rather than double bass. At the very least, the existence of this practice could to some extent explain Beethoven's evident negligence in the editing of his double bass parts to be consistent with its range. I will discuss this evidence in chapter two. The practice of scordatura and its application will be discussed below, in the section concerning performance practice issues.

Orchestral practices varied regionally in this period, and what is found in one place cannot be assumed to be universal. There was no "standard" size for an orchestra, and composers usually prepared works with specific performances and ensembles in mind.⁸ The practice of writing carefully within the compass of the intended double bass instrument—and even of adjusting the range based on the location for a particular performance—can also be observed in the orchestral works of Haydn and Mozart. Haydn's practices in this regard, at least to 1774, have been examined in detail by Sara Edgerton.⁹ In

⁷ Ignaz Jeitteles, *Aesthetisches Lexicon* (Vienna, 1839), 164. Taken from Brun *New History*, 106. See also Focht, *Wiener Kontrabass*, 180.

⁸ See Dexter Edge, "Mozart's Viennese Orchestras," *Early Music* 20, 1 (February 1992), 65–6.

⁹ Edgerton, "Bass Part," chs. 4–6.

summary, Notes below F occur 397 times in 64 symphonies studied. The majority of these (73%) occur in unaccented, cadential afterbeat formulas. Moreover, in solo passages for double bass Haydn observes the boundary of F, while often simultaneously utilizing the cello's lowest register, down to the open C string—this register is otherwise carefully avoided in deference to the compass of the violone. In other words, the bottom of the cello range is avoided in order to maintain octave doubling between the two instruments, but where the violone rises above the cello to play a concertante role, the cello becomes the functional “bass” in the music, and Haydn then employs its lowest register freely. Haydn's rewriting of the cadential pattern to accommodate the violone in m. 64 of the trio of Symphony no. 6 (example 1.1) shows special accommodation of the compass of the violone, and also shows his concomitant use of the bottom of the cello register:

The image shows a musical score for two instruments: Cello and Violone. The Cello part is written in the upper staff, and the Violone part is written in the lower staff. Both staves are in 3/4 time. The Cello part starts with a half rest, followed by a series of eighth notes, and ends with a half note. The Violone part starts with a half rest, followed by a series of eighth notes, and ends with a half note. The key signature has one sharp (F#).

Ex. 1.1 Haydn Symphony No. 6, trio, mm. 61-64

According to James Webster, “Mozart's double-bass parts in the last six symphonies and in the overtures to *Le Nozze di Figaro*, *Don Giovanni*, *Die Zauberflöte*, and *La Clemenza di Tito* observe the boundary F.”¹⁰ Additionally, the “Linz” Symphony, KV 425, of 1783, has F for its lowest pitch; the “Paris” Symphony, KV 297 (300a), of 1778 has G (G1 was the lowest note on most

¹⁰ Webster, “Violoncello and Double Bass,” 431.

Parisian basses, which were tuned in fifths to G d a; see below). The whole of *Le Nozze di Figaro*, KV 492, written for performance in Vienna, has notes below F in only two instances: E-flat appears in Act II, No. 12, *Voi che sapete che cosa è amor*, two times in m. 39; E is written two times in two measures of the fourth act finale. In the latter instance, a strong case can be made for labeling this an oversight, based on an earlier iteration of the same material. In the former instance, ample time before and after the aria suggests the possibility of re-tuning the bottom string for this measure, but this instance may also have been a simple oversight in proofreading. Apart from these two instances, nothing at all is written below F for either cello or double bass in the entire opera. Meanwhile, the note F itself is used often, indicating that Mozart understood and accepted this boundary. Given these earlier precedents in both Haydn and Mozart, it would be strange indeed for Beethoven to depart from convention and completely ignore the compass of the double bass. In fact, he does nothing of the sort. Beethoven was apprenticed to three Viennese masters: Antonio Salieri (1750–1825), Johann Georg Albrechtsberger (1736–1809), and Haydn. He must, to some extent, have derived his initial practices in orchestration and instrumentation from them. Referring to Beethoven's studies with Haydn, Antony Hopkins has written:

If Beethoven, like all too many students, was not interested in doing studies in counterpoint for his distinguished master, there must yet have been many conversations of infinite value to him, discussions about orchestration, explorations of recently completed scores; no musician had a greater wealth of practical experience than Haydn, and Beethoven cannot have been so foolish as not to derive some benefit from it.¹¹

¹¹ Antony Hopkins, *The Nine Symphonies of Beethoven* (Cambridge, UK: University Press, 1996), 5.

Clarification of the problem of why Beethoven's double bass parts reflect a compass that was not found on contemporary instruments is complicated by the history and development of the double bass itself. The dimensions, forms, and tunings of the violin and cello were largely arrived at by 1700, and have deviated very little since then. Establishment of the size and tuning of the double bass was not nearly so straightforward, and remained problematic for at least another two hundred years—indeed, it can be argued that it is not yet settled today. As some authors have suggested, it may be precisely this lack of uniformity that inclined composers to ignore the limitations of the instrument, since they were impossible to pin down in any case, and leave the problem to players to solve for themselves.¹² But in Beethoven's case a clearer understanding of the matter than scholars and musicians have previously allowed is possible. Certainly his writing for the instrument is sometimes ambiguous, but he demonstrates an awareness of the compass of the double bass so consistently that this evidence cannot be ignored.

Broadly speaking, at the end of the eighteenth century and the beginning of the nineteenth, the double bass in France was three-stringed and tuned in fifths (G d a). In Italy and England it was three-stringed and tuned in fourths (A d g). In Germany and Austria, it was four-stringed and tuned, more or less, in fourths (E A d g or F A d g), or five-stringed, and tuned to

¹² See for example Carse, *Beethoven to Berlioz*, 392–5; Ebenezer Prout, *Instrumentation* (Philadelphia: Oliver Ditson, n.d.), 26.

F A d f# a, or a scordatura of this tuning.¹³ By the time Beethoven's music for orchestra was established in the repertoire of the emerging orchestral institutions of Europe and America in the second half of the nineteenth century, and players had begun to grapple in earnest with the difficulties that prompted Müller's writings,¹⁴ the modern version of the instrument (tuned in fourths to E A d g) had become the standard in many places. This is particularly true in Germany and Austria, where it had already been in use in varying degrees for some time. This may explain why so many musicians and scholars have assumed that this is the instrument that Beethoven wrote for in his orchestral music.¹⁵ Others, like Hector Berlioz, H. C. Robbins Landon, Alfred Planyavsky, and Bathia Churgin,¹⁶ have surmised the existence of an instrument capable of the notes that appear in Beethoven's scores. This claim has been rejected as baseless in more recent scholarship. According to James Webster, "modern claims for low C1 strings in the eighteenth century derive from misunderstandings of the older terminology. In particular, these claims

¹³ The preceding summarizes accounts from several sources: Carse, *Beethoven to Berlioz*, 392-5; A. C. White, "The Double Bass," *Proceedings of the Musical Association* 13 (1886-7), 99-112; Brun, *New History*, ch. 6; Cipriani Potter, "Violoncello and Contra-Basso," *The Musical World* 5, no. 41 (1837), 129-33; Rodney Slatford, "Double Bass," *New Grove Dictionary of Music and Musicians*, 2nd edition (New York: Macmillan, 2001), 520-22; Ferdinand Simon Gassner, *Partiturkenntniss* (Karlsruhe: Christian Theodor Groos, 1842), 13-14; Anon., "Vormalige Stimmung des Contraviolons," *Cæcelia* 4 (1826), 228.

¹⁴ Dragonetti, upon seeing the score for Beethoven's Ninth Symphony, declared that he would have charged double if he had known how difficult it was before setting his terms. See Palmer, *Domenico Dragonetti*, 151-2.

¹⁵ See for example Weisner, "Using the Extension," 57-61. This article has a section devoted to problems associated with Beethoven's music, where Weisner writes: "Beethoven was writing for a four-stringed bass tuned E-A-D-G and thus expected that bassists needed to transpose the low notes upward in his orchestra parts," 59. Cf. also Carse, *Beethoven to Berlioz*, 392; Levy, "Contrabass Recitative," 11.

¹⁶ See Hugh MacDonald, *Berlioz's Orchestration Treatise: A Translation and Commentary* (Cambridge: University Press, 2002), 60; see also the introduction of the present work, note 1.

are animated by the belief that 'Bassl' designated some kind of small double bass."¹⁷

In fact, the last stage of a unique and significant era in the history of the double bass took place in Vienna at precisely the time Beethoven was writing and producing the first performances of his orchestral music: the era of the Viennese five-string, or violone.¹⁸ This relatively brief and localized phenomenon had its most intense flowering from about 1760 to 1790, and has rightly been called a "golden age"¹⁹ in the history of the instrument. Not before or since has the double bass as a solo instrument attracted the attention of significant composers to the extent it did during this period. The form of the Viennese double bass, with its particular physical characteristics and unusual tuning, influenced a "school" of both composition and playing. As justification for claiming the existence of a "Viennese School," Adolf Meier cites 1) the proliferation of compositions, 2) specificity of geographic area, 3) a uniformity of compositional style with basis in the same concept of playing, 4) the presupposition of a specific

¹⁷ See Webster, "Violoncello and Double Bass," 421-22; Edgerton, "Bass Part," 134. See also introduction, note 2.

¹⁸ Haydn used the terms "violon" and "violone" interchangeably, and used the term "contrabasso" only once in his symphonies to 1774. This single usage, according to Webster, reflects merely the eighteenth-century flexibility of these terms, and not a change in scoring; in support of this assertion Webster cites the absence of documentary evidence for a separate instrument called "contrabasso." He concludes that "there is no evidence that the two different terms 'Violone' and 'Contrabasso' refer to different instruments." Webster, "Violoncello and Double Bass," 418-19.

¹⁹ See Brun, *New History*, chapter 5; Focht, *Wiener Kontrabass*; Adolf Meier, *Konzertante Musik für Kontrabass in der Wiener Klassik* (Giebling: E. Katzbichler, 1969); Klaus Trumpf, "Johann Sperger," *International Society of Bassists Journal* 1 no.4 (1975), 86-90.

instrument with a specific tuning, and 5) a local concentration of noted virtuosos.²⁰

In addition to concertante chamber works and concertante passages in orchestral works, twenty-nine solo concerti for the instrument survive, and others are known to be lost. Among the latter group is one by Haydn (Hob VIIc:1), which is listed in his thematic catalogue. An aria for bass singer and obligato double bass by Mozart, "Per questa bella mano," written in the last year of his life, has come down to us. Prominent practitioners of the instrument included Joseph Schwenda, for whom Haydn's lost concerto was likely written, as well as the solo passages from symphonies 6-8, 31, and 72. Friedrich Pischelberger (1741-1813) inspired Mozart's aria and probably the famous concerto from Karl Ditters von Dittersdorf. Josef Mannl (1745-1777) played alongside Pischelberger and taught Joseph Kämpfer (1735-1796?), who became the first famous traveling double bass virtuoso. Finally, Johann Sperger (1750-1812) composed eighteen solo concerti for the double bass and many other works.

Scholars generally mark the end of the era of virtuoso concertante bass playing with the death of Johann Sperger in 1812,²¹ although Brun writes that Johann Hindle, perhaps the last well-known practitioner of the tuning, gave yearly solo bass recitals in Vienna—albeit with dwindling attendance—from 1810 to 1830.²² Josef Focht maintains that solo double bass playing had

²⁰ See Meier, *Konzertante Musik*, 53-6. For English translation see Trumpf, "Johann Sperger," 86.

²¹ See Adolf Meier, "The Vienna Double Bass and its Technique During the Era of the Viennese Classic," *Journal of the International Society of Bassists* 8, no. 3 (Spring 1987), 15.

²² Brun, *New History*, 104.

already fallen out of favor in Vienna by the turn of the eighteenth century,²³ but according to Meier, five-stringed instruments of this type—and perhaps exclusively of this type—were produced in Vienna from 1729 to 1830.²⁴ After 1830, according to Meier, four-stringed instruments became the norm, though the shape and distinctively Viennese characteristics persisted. Most five-stringed instruments were later converted to four-stringed versions, and few of the original five-stringed ones remain.²⁵

Strangely, this “golden age” seems to have disappeared from memory even more quickly than it came about; scholars and musicians in the mid- and late-nineteenth century could not imagine what instrument could possibly have executed the obligato part in Mozart’s aria “Per questa bella mano.” Ebenezer Prout wrote the following in 1897:

Owing to its very deep pitch and the comparatively little variety of its tone, the double bass is hardly ever used in the orchestra as a solo instrument. The only example, so far as we know, of its employment in this capacity by the great composers is in the bass song by Mozart, *Per questa bella mano*, which has an obligato for the contrabasso. This solo part is extremely curious; it is written in the G clef throughout, and not only rises to an extraordinary height, but contains double-stops, and even chords, which some of the most eminent double-bass players of the present day declare to be quite impossible on the instrument [...] The whole solo is a problem of which we do not possess the key. Possibly, it was written for some specially constructed small-

²³ Josef Focht, “Solo Music for the Viennese Double Bass and Mozart’s Compositions with Obbligato Passages for Double Bass,” *Journal of the International Society of Bassists* 18, no. 2 (fall 1992), 45.

²⁴ Meier, “Vienna Double Bass,” 10.

²⁵ *Ibid.*

sized bass, on which the strings were shorter, and the fingering different.²⁶

Despite the fact that one of the earliest sources mentioning the Viennese tuning is English (James Talbot, 1694²⁷), perhaps word of the Viennese double bass phenomenon simply did not travel far abroad in the nineteenth century. Cipriani Potter, an Englishman, writes in 1837 that "the double bass was never listened to as a solo instrument, until the celebrated Dragonetti made his appearance."²⁸ A brief history of the instrument given by Lawrence Hurst in 1968 does not mention the Viennese five-string, and similarly situates the first era of virtuosity on the double bass after 1820.²⁹ Recent research into this instrument and its brief flourishing has, perhaps understandably, concentrated on its more glamorous role as a solo instrument; its deployment in the orchestra has not yet been as thoroughly investigated.

²⁶ Ebenezer Prout, *Technique of Instrumentation* (London, 1897), 71. Taken from Brun, *New History*, 109. Brun offers a similar account from John Reynolds, who notes that "In fact, look at this work in any way, it is not double-bass music. No other instance is known of Mozart writing music unsuited for an instrument, nor is he remarkable for writing extremely difficult music for any instrument. His double-bass passages in all his other works are playable and very effective." Reynolds, *A Scrap Book for the Use of Students of the Double-Bass* (London, n.d.), 288. Taken from Brun *New History*, 110.

²⁷ James Talbot, unpublished manuscript, 1694. See Ephraim Segerman, "The Sizes of English Viols and Talbot's Measurements," *Galpin Society Journal* 48 (March 1995), 33-45.

²⁸ Potter, "Violoncello and Contrabasso," 131.

²⁹ Lawrence Hurst, "The Bass Extension Machine vs. the Five-String Bass," *The Instrumentalist* 22/10 (1968), 77. Strangely, Hurst also credits Richard Wagner with sounding "the death knell of the three stringer," and with stimulating the need for sub-E scordatura. The majority of sources indicate that three-stringed basses had not been used in Germany as widely as they had been elsewhere on the continent, and according to both Focht and Brun, the practice of tuning the bottom string as required to E-flat or D originated much earlier in the eighteenth century. See Focht, *Wiener Kontrabass*, 35; Brun *New History*, 119.

3. Eighteenth-Century Sources

In the early eighteenth century, the double bass was primarily described as an instrument with six strings, most often tuned to some variant of a viol tuning, for example: G c f a' d' g'. Jean-Sébastien de Brossard (1703),³⁰ Johann Mattheson (1713),³¹ Joseph Friedrich Bernhard Caspar Majer (1732),³² and Johann Gottfried Walther (1732)³³ all provide descriptions of this type. In the main, these describe an instrument sounding an octave lower than written, but this was not yet an established norm.³⁴ Already in 1677, Johann Jacob Prinner describes a five-stringed instrument tuned F A d f# b,³⁵ only a whole step away on the top string from the eventual tuning of the Viennese violone. Prinner is, interestingly, Viennese. Complaints about both the thinness of tone and frequent breakage of these top strings suggest a pathway to the so-called D major tuning.³⁶ Offering another explanation, Stephen Sas writes:

³⁰ Jean-Sébastien de Brossard, *Dictionnaire de musique* (Paris: 1705).

³¹ Johann Mattheson, *Das Neu-eröffnete Orchester* (Hamburg: 1713).

³² Joseph Friedrich Bernhard Caspar Majer, *Museum musicum theoretico practicum*, (Schwäbisch Hall: 1732).

³³ Johann Gottfried Walther, *Musikalisches Lexicon* (Leipzig, 1732).

³⁴ A great deal of confusion has resulted from applying this later convention to music where it was not intended, as well as from the assumption that the term violone refers to a specific instrument. The flexibility of this term over both place and time is one of its evident hallmarks. Lawrence Dreyfus has shown that Bach wrote for three different violoni in his Brandenburg Concerti, and that not all of them sounded in the 16' octave. In other words, the appearance of written C in a part marked violone does not necessarily indicate a sounding pitch of C1. See Sas, "Double Bass," 79-80.

³⁵ Johann Jacob Prinner, *Musicalischer Schlissl* (Vienna: 1677).

³⁶ "On the very large string basses or violones the thin strings seldom can endure on account of the relatively great distance between the nut and the bridge..." (Praetorius, *Syntagma Musicum II* [Wolfenbüttel: 1619], 45). Taken from Brun, *New History*, 101.

It has been theorized that the E1 A1 D G tuning sequence was one which North German players were particularly comfortable using (two out of three of Praetorius's *Gross-Bass Viol de Gamba* start with this and the the larger *Gar Gross Bass Viol* also contains this), while in Southern Germany and Austria different musical traditions were present and the tuning starting with F1 A1 D F# was more popular.³⁷

One of the earliest eighteenth-century descriptions clearly indicating an instrument that could be called a direct forbear to the modern double bass was given by Eisel in 1738. After describing the six-stringed instrument referred to above, Eisel mentions a second type, tuned C G d a, which

has only four strings among which [is] the 16-foot contra-C. It is tuned by many like a violoncello (an octave lower) but most tune it in fourths. [This violone] cuts through better in the orchestra than the six-stringed one and requires more force to play it than the other two. The Italians call it *Violone Grosso*.³⁸

Prelleur gives a similar description in 1731, calling the violone "a Double Bass, that is an octave lower than a Common Bass Violin."³⁹ These descriptions suggest that a bass instrument tuned and sounding exactly an octave below the cello seems to have been a theoretical ideal from very early on. Though such an instrument is described in numerous writings, it is often, as above, presented with qualification ("but most tune it in fourths"), or with a lack of specificity: in 1756 Leopold Mozart writes that the double bass "sounds an

³⁷ Sas, "Double Bass," 61. Sas attributes this theory to Ephraim Segerman's "On the Double Bass and Related Instruments Before 1700," *Fellowship of Makers and Restorers of Historic Instruments Bulletin* 50 (January 1988), 49-55. He also notes that two of the Klein Bass-Viol de Gamba tunings have E A d g for their top strings.

³⁸ Johann Phillip Eisel, *Musicus autodidactus* (Erfurt: 1738). Taken from Sas, "Double Bass," 71.

³⁹ Peter Prelleur, *The Modern Musick-Master or the Universal Musician* (London: 1731). Taken from Sas, "Double Bass," 86.

octave below the cello," but he does not indicate its tuning.⁴⁰ Practical application of this "octave below" tuning was evidently problematic. Later indications of difficulties arising from a string designed to sound E1, a full major third higher, and the subsequent prevalence of eighteenth- and nineteenth-century tunings avoiding C1 to E1 entirely, and even dropping the fourth string altogether, all lend support to this assertion. As late as 1854, Johann Hindle gives the following account:

The open strings are tuned F A d g. Some people do not understand why I tune the first one to F, since the low string is usually tuned to E. It cannot be denied that the low E produces a good effect in Adagios and Pianos, but the instrument has to be designed for that purpose. Double basses with a strong, clear tone in the low register are rarely to be found. One rarely finds strings which can reach contra-E: most of the time they are slack and have an indistinct tone. For this reason, bassists cannot tune it, and the result is that, in attempting to reach this low note, one diminishes the string's volume of sound rather than improving it. In any case, the use of low E is very infrequent and one often comes upon low F, so I favor tuning it to F. The string, being consequently tauter, gives a fuller tone development, and thus can be tuned more easily by ear. The open A string can also be bridged more easily, as the notes F, F#, G, and G# can be played without leaving the first position.⁴¹

Hindle's comment that "one often comes upon low F" is notable in the context of this study, and his mention of the effectiveness of lower notes in slow movements is also consistent with Beethoven's usage, as will be seen below. Given these remarks from the middle of the nineteenth century, it is difficult to accept that such an instrument—one tuned in fifths and sounding an octave below the cello—whether it actually existed or not, was in fact usable to any reasonable extent. Webster points out that of the two

⁴⁰ See below, note 45.

⁴¹ Johann Hindle, *Der Contrabass Lehrer, Ein theoretisch-praktisches Lehrbuch* (Vienna: 1854), 7. Taken from Brun, *New History*, 119.

references in the literature to double basses tuned to C1 before 1850, "neither has any relevance for Austrian music between 1750 and 1800."⁴²

There are two well-known descriptions of the instrument from the middle of the century: by Quantz, in 1752; and Leopold Mozart, in 1756 (2nd edition, 1769). Quantz, a north German, recommends a four-stringed instrument tuned E A d g. He strongly advocates the "inescapable necessity"⁴³ of the use of frets, and in addition notes another instrument, "the so-called German violon with five or six strings" which "has been justly abandoned."⁴⁴ Leopold Mozart gives the following description:

The Great-Bass or the Violon, from the Italian Violone, is the eighth kind of stringed instrument. This Violon is also made in various sizes, but the tuning remains the same. It needs to be strung according to its size [albeit the difference must be observed in stringing it]. Because the Violon is much bigger than the Violoncello, it is tuned a whole octave lower. Usually it has four strings [at times only three], but the larger ones may have five. [With these five stringed Violons, or Double-Basses, bands of rather thick cord are attached to the neck at all the intervals, in order to prevent the strings from slipping, and to improve the tone. One can also perform difficult passages more easily on such a Bass, and I have heard concertos, trios, solos, and so forth performed on one of these with great beauty. But I have observed that in accompanying with any strength for the purpose of expression, two strings are frequently to be heard simultaneously on account of the strings being thinner and lying nearer together than those of a Bass strung with but three or four strings.]⁴⁵

⁴² Webster, "Violoncello and Double Bass," 422.

⁴³ Johann Joachim Quantz, *Essai d'un methodé pour apprendre à jouer de la flûte traversière* (Berlin: 1752). Translated and reprinted as *On Playing the Flute*, trans. Edward R. Reilly (London: Faber and Faber, 1966), 247.

⁴⁴ Quantz, *Playing the Flute*, 247.

⁴⁵ Leopold Mozart, *Versuch einer gründlichen Violinschule* (Augsburg: 1756-1787). Translated and reprinted as *A Treatise on the Fundamental Principles of Violin Playing*, trans. Editha Knocker (Oxford: University Press, 1951), 11. Braketed portions are additions that appear in Mozart's second edition of 1769. According to Meier, the omission can be accounted for by the Salzburg provenance of the first edition. In the years separating the two versions, Mozart evidently traveled to Vienna and learned of the Viennese violone firsthand. See Meier, "Vienna Double Bass," 11.

Two decades later, in 1790, Beethoven's mentor Theodor Albrechtsberger asserted that the five-stringed double bass, tuned F A d f# a, had supplanted four-stringed versions:

The violon or contrabass normally has five thick strings, also of sheep's gut, which from below are tuned F A d f# a. The two lowest are normally wound. It sounds an octave lower than the cello. It has frets on the fingerboard at each half step. There is another type of double bass with only four strings and without frets, whose tuning is different, namely E A d g or F A d g. This and the three string model are rarely seen any longer.⁴⁶

Albrechtsberger's equation of the terms *violon* and *contrabass* is notable. The last two tunings he mentions (E A d g and F A d g), and furthermore G A d g, are documented in the late eighteenth century and the first half of the nineteenth. These clearly represent attempts to wrest some usefulness out of the fourth string, which was evidently problematic in practical application; tuning the string at higher tension, as Hindle mentions above, potentially improved its responsiveness and tone. In many places in Europe (France, Italy, and England) the fourth string was eventually dropped altogether, and not reinstated until much later in the nineteenth century. According to Rodney Slatford, the fourth string was not required in English orchestras until the 1920s.⁴⁷

Albrechtsberger gives a clear appraisal of the situation for the double bass in Vienna at the end of the eighteenth century: the five-stringed instrument in the D major tuning had become the norm, and the other four-string tunings were of secondary importance. In 1790, Albrechtsberger seems

⁴⁶ Johan Georg Albrechtsberger, *Gründliche Anweisung zur Composition*, (Leipzig: 1790), 421-22. Translated in Brun, *New History*, 100.

⁴⁷ Slatford, "Double Bass," 522.

to have had every confidence in the perpetuation of this form of the double bass. A kind of progression can be traced in the descriptions given by Quantz, Mozart, and Albrechtsberger: Quantz identifies but rejects the “German violon” in 1752 (though it is not certain that he refers to the D major-tuned Viennese violon); Mozart mentions the instrument in 1756, and then elaborates and praises its qualities in 1769; finally, Albrechtsberger asserts its ascendancy over other tunings in 1790. Beethoven arrived permanently in Vienna in 1792, and shortly thereafter began his studies with Albrechtsberger, among others. Albrechtsberger’s description is, therefore, arguably the most germane to the present discussion.

4. The Viennese Violone

a. Background and Context

The D major tuning, F A d f# a, is mentioned in sources ranging from 1694 to 1842. These include Talbot (Oxford, 1694), Joseph Saveur (Paris, 1767; Diderot’s “Encyclopedie”), Jean-Benjamin de Laborde (Paris, 1780), Albrechtsberger (Leipzig, 1790), Joseph Frölich (Bonn, 1810), Johann Nicolai (Leipzig, 1816), Gustav Adolph Wettengel (Ilmenau, 1828), Hartman (Paris, 1834), Gustav Schilling (Stuttgart, 1835), Georges Kastner (Paris, 1837), Ignaz Jeitteles (Vienna, 1839), and Ferdinand Simom Gassner (Stuttgart, 1842).⁴⁸ Additional documentation of the use of this instrument can be gleaned from the records of the Esterházy estate, where purchases of strings for an instrument called both “violon” and “violone” correspond to the pitches of this tuning. Players of this instrument are referred to as “violonist” and

⁴⁸ This list summarizes information from Brun, *New History*; Meier, *Konzertante Musik*; and Peter McCarthy, “Tuning Trends in Large String Bass Instruments” (paper presented at the ISB Convention, University Park, Pennsylvania, 8–13 June 2009).

"violonista" in payment records. Haydn wrote solo passages for the Viennese violone in Symphonies 6, 7, 8, 31, 45 and 72, but its normal role was simply to play along with the cello and the bassoon on the part marked "basso."⁴⁹ Haydn's autograph scores use the terms "violon" and "violone." The instrument is also specifically mentioned in a letter written by Haydn in 1768 regarding a performance of his *Applausus* cantata, as noted below. Regarding specific evidence for the inclusion of a double bass instrument in Haydn's ensemble, Edgerton concludes:

Given the appearance of violone solos and independent passages in Haydn's early symphonies, the regular mention of this instrument in authentic and early unauthentic sets of parts, and Haydn's own specification of the violone as a member of the bass ensemble in his "Applausus" letter, the violone may be safely assumed to have been an integral member of the bass-part instrumentarium in Haydn's early symphonies.⁵⁰

The tuning of this instrument can be established with documents from the Esterházy estate for instrument supplies. Until recently, documentation showing purchases of violone strings only existed for A1, D, F#, and A strings, indicating that the violone used in Haydn's ensemble may have been four-stringed. James Webster, however, based on "widespread use of five-string basses in eighteenth-century Austria and on musical evidence in Haydn's bass parts,"⁵¹ hypothesized that Haydn's violone was in fact five-stringed. This hypothesis has been confirmed by documents from the estate published in 1980, where A and F strings, "ibersponen mit trat" [wound with wire] are described alongside "Zwey Violon Fis, und trey A" [two Violone F-

⁴⁹ Edgerton, "Bass Part," 128.

⁵⁰ *Ibid.*, 135-6.

⁵¹ *Ibid.*, 133-4.

Sharp, and three A] in a purchase requisition.⁵² For Edgerton, this evidence confirms the use of the five-stringed Viennese violone, tuned to F A d f# a, in Haydn's ensemble at Esterházy.

b. The Viennese Five-String in Beethoven's Vienna

Beethoven gave the first public concert of his own music on April 2, 1800, at the Burgtheater in Vienna. The program included the first public performance of Symphony no. 1, and either the first or second of his piano concertos—most likely the second.⁵³ Beethoven contracted the Italian Opera Orchestra of the Viennese Hoftheater (there was a German Opera company as well; the Italian was reputed to be the better of the two). A review of the concert appears in the October 15, 1800 edition of the *Allgemeine Musikalische Zeitung*. Double basses are not specifically mentioned in this review. However, after noting that "this was truly the most interesting concert in a long time," the correspondent offers his opinion that "the orchestra of the Italian opera made a very poor showing," and continues, "the faults of this orchestra, already criticized above, then became all the more evident."⁵⁴ With this comment the writer refers to a segment appearing seven columns earlier in the same edition, which discusses the Italian Opera more generally. In this earlier segment, the orchestra's double basses are mentioned specifically:

⁵² Ulrich Tank, "Die Dokumente der Esterházy-Archive zur Fürstlichen Hofkapelle 1761-1770," *Haydn Studien* 4 (1980), 305. Taken from Edgerton, "Bass Part," 134.

⁵³ The correspondent for *Allgemeine Musikalische Zeitung* reports on October 15, 1800, that "He [Beethoven] played a new concerto of his own composition [...]" Taken from Elliot Forbes, ed., *Thayer's Life of Beethoven* (Princeton: University Press, 1964), 255. According to the *New Grove*, the first concerto had already been performed in 1795.

⁵⁴ *Allgemeine Musikalische Zeitung* 3, no. 3 (October 15, 1800), col. 49. Taken from Forbes, *Thayer's Beethoven*, 255.

As for the violones, one might wish that not all five of them would be five-stringed, and that the gentlemen would be a little quieter. During great fortes, one hears more scraping and rumbling than clear and penetrating sound, which would contribute to the whole.⁵⁵

The writer establishes a definite connection between the orchestra of Beethoven's performance and the one discussed earlier; in fact, he implies that they are one and the same. The attitude portrayed in the notice is certainly not a positive one, and perhaps reflects a changing disposition toward the use of the Viennese violone in orchestral situations. Still, the facts speak for themselves: according to this writer, all five players in the orchestra were playing on five-stringed instruments. In Vienna in 1800, these can only have been Viennese five-stringed violones. The writer even uses the term "violon." Beethoven's familiarity with and acceptance of the lower compass of this instrument is plainly discernible in the music played on this concert: all of it clearly observes a lower boundary of F in its cello and double bass parts. In fact the rest of his works as far as op. 55, and also many later ones, observe this same boundary, as I will show in chapter three with analysis of individual works.

A second piece of evidence comes from a letter written by Sir George Smart, the English conductor. Smart traveled to Vienna in 1825 to discuss Beethoven's Ninth Symphony with the composer. Performance of the work in London had been problematic, and Smart sought to deepen his understanding of Beethoven's intentions. He later recalled, "the double basses here [Vienna] had four strings and Mittag said some had five—but with three Dragonetti does

⁵⁵ *Allgemeine Musikalische Zeitung* 3/3 (October 15, 1800): col. 42. "Bey den Violons wäre zu wünschen, dass nicht alle 5, fünfsaitig, und die Herren etwas weniger wären. Bey grossem Forte hört man mehr drein reissen und Rumpeln, als deutlichen, durchdringenden Basston, der das Ganze erheben könnte." My translation.

more than I have yet heard."⁵⁶ Twenty-five years later, the report is undeniably that the instrument is still in use. This evidence is corroborated by Meier's assertion that five-stringed instruments were produced in Vienna until 1830; it is difficult to understand why they would be produced if there was no demand for them.

As further evidence, the presence of known and very likely practitioners of the Viennese tuning in Viennese orchestras of the early nineteenth century can be documented to some extent. Georg Joseph Sedler (1750–1829) was a member of the Hofkapelle from at least 1793 until his death in 1829.⁵⁷ Focht writes of Sedler that "his reputation as a virtuoso double-bassist extended far into the nineteenth century," which points strongly toward his use of the Viennese tuning, since virtuosic music for fourths-tuned double bass—at least in Vienna—did not exist at this time. Johann Dietzel (1754–1806) was engaged in Haydn's ensemble at Esterházy until 1790, and then again from 1802 until his death. In between these periods he was employed by the Hofkapelle in Vienna, and according to Focht is known to have participated in the first performance of Beethoven's Septet op. 20, on April 2nd, 1800.⁵⁸ This assertion is corroborated by Mary Sue Morrow's Viennese concert calendar for 1761–1810, which lists "Herr Schuppanzigh, Schreiber, Schindlöcker, Bähr, Nickel, Matuschek, and Dietzel" as having participated in the septet.⁵⁹ Haydn had some superlative words for Dietzel, calling him "the

⁵⁶ British Library, Add. MS 41774, f. 26'. Taken from Palmer, *Domenico Dragonetti*, 75.

⁵⁷ Ludwig Ritter von Köchel, *Die Kaiserliche Hof-Musikkapelle in Wien von 1543–1867* (Vienna, 1869; repr., New York: Georg Olms Verlag, 1976), 94.

⁵⁸ Focht, *Wiener Kontrabass*, 177.

⁵⁹ Mary Sue Morrow, *Concert Life in Haydn's Vienna: Aspects of a Developing Musical and Social Institution* (Stuyvesant: Pendragon, 1989), 304.

only good double bass player in Vienna and all of the Hungarian Empire."⁶⁰ This long-time association with Haydn's ensemble—whose instrumentarium is detailed by Edgerton (see below), strongly indicates that Dietzel was a practitioner of the Viennese tuning. His participation in the premiere of Beethoven's septet also points to his use of the low-string scordatura practice described by Focht, as I discuss below.

Friedrich Pischlberger (1741–1813) gave the first performance of Mozart's "Per questa bella mano" in 1791, and is known to have consulted with both Mozart and Pichl about the instrument's possibilities;⁶¹ therefore, his use of the Viennese tuning cannot legitimately be questioned. According to Focht, Pischlberger is known to have been a musician at the Viennese Hofkapelle, and later at the Theater an der Wien, the orchestra that Beethoven contracted for his second Academie in 1802. Theodor Albrecht corroborates this assertion in his article on the double bass player Anton Grams.⁶² In conjunction with the above documentation, the presence of these players in Viennese ensembles connected with early performances of Beethoven's music suggests that the Viennese tuning was still in use in Vienna at the turn of the eighteenth century. Perhaps this tuning was already in decline at this point; a changing attitude toward the instrument is certainly reflected in these sources. However, it is clear that the instrument and its associated limitations of range were well known in Vienna at the turn of the eighteenth century. These limitations are reflected consistently in Beethoven's orchestral music to op. 50, and, if less consistently, in his later music as well.

⁶⁰ Focht, *Wiener Kontrabass*, 177.

⁶¹ Meier, "Vienna Double Bass," 14.

⁶² Theodor Albrecht, "Anton Grams, Beethoven's Preferred Double Bassist," *International Society of Bassists Journal* 26, no. 2 (2002): 20.

5. The Eighteenth-Century "Basso" Part

Prior to the late eighteenth century, the part marked "basso" or "bassi" or "bassi tutti" by a composer was not written for a specific instrument. All bass-register instruments—cello, double bass (violone), bassoon, contrabassoon, theorbo, etc.—played from this same part, and if there were times when one or the other should drop out or play alone, this would be indicated with instructions like *senza faggoti* or *solì violoncelli*. According to Adam Carse,

The part in 18th century orchestral music which is most liable to be misunderstood is the bass part. The 19th century editions are apt to treat this as a part written specifically for cellos and double-basses; as a purely string part. Up to the time, quite late in the century, when composers did write specifically for these two instruments, only one bass part was written. It was the bass of the music in general, and was not designed for any particular instrument, nor did it embody the technical characteristics of the bowed string-instrument family. [...] The part was intended for all instruments of the bass register, and for all those whose function included playing the bass of the music.⁶³

Carse's description of the flexibility of the "basso" role withstands scrutiny, but more recent scholarship disagrees slightly with his description on two particulars: First, his assertion that the bass part was not designed for the "technical characteristics" of the stringed instruments disagrees with Edgerton's research on Haydn's bass part writing. On the contrary, Edgerton asserts a high degree of tailoring for the specific characteristics of both the cello and the Viennese violone.⁶⁴ In addition to an overall compliance with the lower compass of the violone, Edgerton notes features

⁶³ Adam Carse, *The Orchestra in the XVIIIth Century* (Cambridge, UK: Heffer and Sons, 1940), 122.

⁶⁴ Edgerton, "Bass Part," chs. 5 and 6.

such as the concurrence of the top boundary of the cello's range (a') with that of the violone—this note is an octave harmonic on the top strings of both instruments. In Haydn's writing, passages utilizing this top note are carefully prepared by either rests or stepwise motion. Furthermore, figurations and passage-work utilizing alternation with the open-string notes a and d—common to both instruments—are prominent, while similar figurations employing the cello's G and C strings are avoided unless the violone is resting or has a different role, for example a concertante passage.⁶⁵ Secondly, the appearance in the late eighteenth century of specific indications for both cello, double bass, and bassoon is often construed—as Carse implies above—to be the moment of “separation” of the cello from the double bass. James Webster has argued, however, that the appearance of these indications merely follows a late eighteenth-century tendency toward terminological precision, as opposed to reflecting a change in either scoring or performance practice.⁶⁶

Bass instruments in Haydn's ensemble at Esterházy likely consisted of one player each on cello, violone, and bassoon. Carse writes that “it is not generally realised that [eighteenth-century bass parts] often included the bassoon part, even though that instrument is not mentioned by name.”⁶⁷ Interestingly, each of the musicians identified as violone players in Esterházy documents was hired as a bassoonist,⁶⁸ implying a strong connection between these instruments and their function. Apparently these duties were considered practically interchangeable. The age of the instrumental

⁶⁵ *Ibid.*, 139–40.

⁶⁶ Webster, “Violoncello and Double Bass,” 425–6.

⁶⁷ Carse, *XVIIIth Century*, 124.

⁶⁸ See H. C. Robbins Landon, *Haydn: Chronicle and Works*, vol. 1, *Haydn: The Early Years, 1732–1765* (London: Thames and Hudson, 1994), 356.

specialist had not yet arrived, and many musicians could, and were often expected to, fulfill multiple instrumental roles. Normal instrumentation for Haydn's "basso" ensemble can be established using documents from the Esterházy estate, and Haydn's own description in a letter concerning a performance of his *Applausus* cantata, from 1768:

In the soprano aria, the bassoon can be omitted, if necessary; but I prefer it to be included, especially since the bass is *obbligato* throughout. I prefer just three players on the bass—one cello, one bassoon, and one double bass [violon]—to six double basses and three celli, because many passages cannot be heard clearly [in the latter scoring].⁶⁹

Edgerton notes that these instructions, intended as a guide for the performance of a cantata outside of Haydn's own supervision, do not provide conclusive or unconditional evidence concerning his instrumentation practices more generally. But since the letter shows that Haydn knew very little about the circumstances under which the cantata would be performed (he complains about this in the letter),⁷⁰ it is reasonable to suppose that these instructions represent his preferences.

The flexibility that is implied by the above circumstances and evidence indicates a very different conception of musical vs. instrumental roles than what we generally hold today. In other words, the "basso" was a musical role which could be filled by a number of different instruments

⁶⁹ Dénes Bartha, *Joseph Haydn: Gesammelte briefe und Aufzeichnungen* (Kassel: Bärenreiter, 1965), 60. Translated by James Webster, "Towards a History of Viennese Chamber Music in the Early Classical Period," *Journal of the American Musicological Society* 27 (1974), 237, n. 113. "In der Sopran Aria kan allenfahls der Fagot ausbleiben, jedoch wäre es mir lieber, wan selber zugegen wäre, zu malen der Bass durchaus obligat, und [ich] schätze jene Music mit denen 3 Bassen, als Violoncello, Fagot, und Violon höher, als 6 Violon mit 3 Violoncello, weil sich gewisse Passagen hart distinguiren." Taken from Edgerton, "Bass Part," 10.

⁷⁰ See Edgerton, "Bass Part," 10.

according to circumstance and availability. For a performance today, we assemble the instruments that the composer indicated in the score. A similar progression can be traced with other instruments, for example violin and oboe or flute, whose parts in baroque and earlier classical music were nearly always one and the same, with deviations and separations indicated verbally; of course these two instruments later came to have complete independence in scoring. This aspect of classical performance practice—which is in fact a holdover from the baroque period—changed substantially over the course of the nineteenth century, where instrumental roles became more specifically defined in orchestration practices. But it stands at close remove to Beethoven’s orchestral practices at the beginning of that century. Chapter two will take up this discussion in relation to evidence concerning Beethoven’s use of contrabassoon to reinforce the double bass in performance, and the implications of this practice for the appearance of unplayable pitches in his double bass parts.

6. Performance Practice Issues Specific to the Double Bass

a. Simplification

In the eighteenth century, and indeed onward into the nineteenth, double bass players were not necessarily expected to play all the notes in their part. The practice of simplification is mentioned by Quantz in 1752, by Corrette in 1773, and in numerous nineteenth-century sources. As Stephen Sas has pointed out, it is easy to understand why playing standards on the double bass lagged so far behind those of the other stringed instruments: Standardized dimensions for the violin and cello allowed pedagogy and technique to develop rapidly and uniformly. Woeful lack of the same in double bass instruments essentially prevented meaningful advances in pedagogy, and

therefore in technique.⁷¹ Available equipment also seems to have been a significant impediment. The central problem was an inability to construct a string that could sound the pitches of the 16' octave without making it so long or so thick that it became unplayable. All manner of experimentation with size and tuning of the instrument were, in essence, compromises necessitated by this deficiency. It was not until much later in the nineteenth century that methods for increasing the specific gravity of the string without increasing its diameter were mastered, and meaningful gains in lower compass could then be realized. Winding the bottom strings with wire, a practice that appeared in the late seventeenth century in Bologna,⁷² was one such development. According to Stephen Bonta, this development led to the rise of the cello over other forms of bass instruments. It took much longer for these same advances in string technology to take effect in the 16' register.

Quantz describes what one should do "if in a bass part passage-work appears which, because of its great rapidity, the double bass player is unable to execute distinctly."⁷³ He continues with examples of how a part might be simplified. Quantz is adamant about the necessity for quality and skill among double bass players.⁷⁴ However, having also said that "most of those who are assigned to the instrument do not have the talent to distinguish themselves upon other instruments that require both facility and

⁷¹ Sas, "Double Bass," 74.

⁷² Stephen Bonta, "From Violone to Violoncello: A Question of Strings?" *Journal of the Musical Instrument Society* 3 (1977), 64-99.

⁷³ Quantz, *Playing the Flute*, 249.

⁷⁴ *Ibid.*, 247. Quantz writes that "it remains incontestable that, even if the double bass player has no need of great delicacy of taste, he must understand harmony, and must be no poor musician."

taste,"⁷⁵ he does not appear to have much optimism for their prospects.

Nonetheless his ideal seems to have been that the double bass player play all the notes, and resort to simplifying only when absolutely necessary:

Except in passage-work of this sort, however, which some find too difficult to play rapidly, the bass player must omit nothing. If he were to play only the first four quavers that appear upon the same note, passing over three, as some do at times, especially if they have to accompany a piece that they did not compose themselves, I do not know how he could avoid an accusation of laziness or malice.⁷⁶

While the practice of simplification certainly did exist, the exact nature and extent of its use cannot be established with any certainty. Clearly in France it was eventually perceived as a problem.⁷⁷ The most serious invective against the practice originates there, primarily from Berlioz. This fact can be connected to the French practice of tuning the bass in fifths, which persisted until late in the nineteenth century: this tuning necessitated cumbersome and athletic shifting to play even the simplest of passages, and must have contributed in practice to the overuse of simplifying. Berlioz bemoaned the persistence of this tuning,⁷⁸ and declared a

⁷⁵ *Ibid.*

⁷⁶ *Ibid.*, 250.

⁷⁷ Berlioz writes in his treatise on instrumentation: "Modern composers are wrong to give the heaviest of all instruments passages of such rapidity that even the cellos have difficulty with them. The result is a considerable nuisance since idle [lazy] players, or those incapable of tackling such difficulties, give up at once and take it upon themselves to simplify the passage. But since one man's idea of simplification differs from that of the next [...] [T]he result is horrible confusion and disorder. Such buzzing and bedlam, full of strange noises and hideous grunting, is made yet worse by other, keener players with more confidence in their own ability who exhaust themselves in pointless attempts to play the passage exactly as written." Damned if you do, damned if you don't. Taken from MacDonald, *Berlioz's Orchestration*, 58.

⁷⁸ *Le rénovateur*, (12 October 1835), 310. Taken from MacDonald, *Berlioz's Orchestration*, 54, n. 30.

preference for the four-stringed, fourths-tuned bass in his instrumentation treatise. He had no kind words for the "simplifiers," as he called them:

This is what simplifiers do. When a note is repeated eight times in a bar as eight quavers, they just play four crochets. If there are four crochets written, they play two minims. And if there is a semibreve or a single note to hold for a whole bar, they begin the note and then drop the bow after one beat as if their strength had suddenly deserted them. If you expect an energetic scale rising an octave, don't count on it, since it will almost always be transformed into four notes chosen at will by the player from the eight notes of the scale. Did you write a tremolo? Since this is a bit tiring on the right arm the simplifying bassist will offer you a few clumsy notes, and you'll be lucky if he doesn't reduce it to a simple held note, turning feverish agitation into dull placidity. God preserve us from thieves and simplifiers! [...] Simplifiers are almost always poor in spirit, and since, as the Gospel tells us, theirs is the kingdom of heaven, I often think they ought to get there as quickly as possible.⁷⁹

It is certain, though, that in countries like France, Italy, and England, where the three-stringed bass was used, octave transpositions—and often extensive ones—were a fact of life for double bass players, and one that remained until well into the twentieth century. Dragonetti and the entire bass section of the London Philharmonic reportedly played the entire Trio of Beethoven's Fifth Symphony an octave higher than written.⁸⁰ But some scholars have questioned whether the practice of simplification would have been necessary at all for a reasonably competent player in eighteenth-century Germany and Austria, aside from the occasional octave transposition. As noted above, Sara Edgerton has subjected the bass parts of Haydn's symphonies to 1774 to extensive analysis for its suitability for both the cello and the

⁷⁹ *Gazette musicale* (12 July 1835), 209-13. Taken from MacDonald, *Berlioz's Orchestration*, 58-9, n. 34.

⁸⁰ Potter, "Violoncello and Contra-Basso," 133.

Viennese violone, and finds it on the whole to be specifically tailored for the technical characteristics of that instrument:

Haydn's symphonic bass parts contain writing appropriate to a five-string violone tuned F A d f# a. Difficult figuration found in the bass part is as well suited to the violone as the cello; exploitation of patterns involving the open a and d strings creates an idiomatic part for both instruments. Haydn's avoidance of stressed notes below F shows that he designed the bass part with the pitch boundaries of the violone in mind. Musical evidence suggests that the violone would have played throughout on the bass parts of these symphonies, performing the part exactly as written with octave transposition of notes below F, thus, except for the notes E to C, providing a continuous sixteen-foot sounding pitch range on the bass part.⁸¹

Edgerton allows, however, that octave transpositions were "a matter of routine" for double bass players.⁸²

The idea that the actual content of the double bass part would be left to the judgment of individual players finds expression in the nineteenth century as well. In 1813 Alexandre Choron advised: "Bass parts are the same as cello parts except for rapid passages which are left out. Composers do not bother to do this reduction themselves; they leave it to the players, who are used to it."⁸³ Twenty years later, Berlioz placed the responsibility squarely on the composer, writing that "if the composer writes only what the instrument can comfortably manage, the player must play it, no more, no less. When the fault is the composer's, he and the audience must bear the consequences; the player cannot be held responsible for them."⁸⁴ Cipriani Potter, writing in London somewhat later than Berlioz, makes a similar

⁸¹ Edgerton, "Bass Part," 144.

⁸² See Edgerton, "Bass Part," 136-138.

⁸³ Alexandre Choron, *Traité général des voix et des instruments d'orchestre* (Paris, 1813), 84. Taken from MacDonald, *Berlioz's Orchestration*, 58.

⁸⁴ MacDonald, *Berlioz's Orchestration*, 58.

assessment. He writes, "if left to the judgment of the performer, and to *several* in an orchestra, great confusion is occasioned by the passages being taken in different ways."⁸⁵

Clearly, simplification became increasingly unacceptable as the nineteenth century progressed. The double bass parts in the symphonies of Brahms, for example, are written in such a way that they specifically preclude the practice. It may be that Beethoven expected that unplayable pitches would be transposed up an octave by double bass players. It may also be the case that confusion about how to execute these unplayable pitches in Beethoven's music led to an increased use of this practice in the early- to mid-nineteenth century. But neither of these lead inescapably to the conclusion that the practice of simplification would have been used extensively in turn-of-the-century Vienna. Neither do they indicate that Beethoven's bass parts were written with the disregard for the instrument so often described by both nineteenth-century and modern writers. In fact, analysis of Beethoven's bass parts indicates that he demonstrates keen awareness of the pitch limitations of the double bass throughout his orchestral music. It is possible that Beethoven's somewhat careless attitude toward editing his bass parts for the compass of the double bass can be accounted for to some extent by his knowledge that double bass players were accustomed to transposing them up an octave, but the practice of simplification is not likely to have had any larger of a role than that. While it may be true that Beethoven's orchestral music tested the technical capabilities of both the double bass and its players, with the exception of

⁸⁵ Potter, "Violoncello and Contra-Basso," 133. Curiously, Potter advises composers not to write below A-flat for the double bass, when he has clearly established the preferred tuning (that of Dragonetti, to whom he grants "the highest authority") to have a lower limit of A.

out-of-range pitches, it is most likely that he expected the notes in his double bass parts to be played as he wrote them.

b. Scordatura: Variable Tuning of the Bottom String

Certain works or single movements seem to assume a consistent lower boundary in the bass part of E-flat or D. Examples are the first movement of the Septet, op. 20, and the March and Chorus from *The Ruins of Athens*, op. 114. In the case of the Septet, the lowest note throughout for either cello or double bass is E-flat; the later example has a lower compass of D. Interestingly, low D-flat seems to be avoided in op. 114, despite two occasions where it would have seemed to work very naturally, and where the cello could easily have executed it. These and similar examples suggest the possibility of Beethoven's awareness of the practice of re-tuning the bottom string of the double bass as needed to D, E, F, or F-sharp. This practice is described by Focht in *Der Wiener Kontrabass*,⁸⁶ and was in use in late eighteenth-century Vienna. It cannot have been used in works where, for example, E-flat is used in one passage and then C or C-sharp is found later, as in the first movement of the Seventh Symphony. Yet certain works seem to assume a consistent boundary that suggests the possibility of scordatura, where there would have been time to re-tune between movements of a piece or between pieces on a program. Beethoven's slow movements in particular often show a lower limit of E-flat, indicating that perhaps Beethoven thought this was practically feasible in slower tempi. This agrees with Hindle's assertion, noted above (see p. 21), of the effectiveness of lower notes "in adagios and pianos." Specific examples of this type will be discussed in chapter three, in connection with the works where they appear.

⁸⁶ Focht, *Wiener Kontrabass*, 35-6.

7. Conclusion

This chapter has established that the Viennese violone was in use in orchestral situations in late eighteenth- and early nineteenth-century Vienna. Albrechtsberger's 1790 assessment places the instrument in a position of prominence in that context, and the production of these instruments until 1830 in Vienna is also a strong indication of their continued use in ensembles. The exclusive use of this instrument in at least one early performance of Beethoven's orchestral music strengthens this argument. The fact that Beethoven's predecessors and contemporaries, Mozart and Haydn, paid attention to the compass and limitations of this instrument—primarily with a lower boundary of F—has also been established; Beethoven's orchestral music will be examined in detail from this perspective in chapters two and three. Discussions of the practice of simplification and of the flexibility of the eighteenth-century conception of the "basso" part in ensemble music pave the way for a potential explanation for the appearance of unplayable pitches in Beethoven's double bass parts. The practice of reinforcing the double basses with contrabassoon possibly meant that these pitches could be left in the part, even though the double bass itself could not execute them. This possibility might also go some way toward explaining the evident "looseness" of Beethoven's attitude toward editing these parts. Evidence for this unwritten practice will be discussed in chapter two.

Although a degree of ambiguity is an undeniable feature of some of Beethoven's bass parts, the fact remains that Beethoven clearly demonstrates accommodation for the compass of the double bass—albeit inconsistently—through to his latest orchestral works. It simply cannot be the case, as earlier scholars have suggested, that Beethoven wrote for an instrument that

was capable of C1. No documentation as yet supports this assertion, and considerable evidence, most importantly in the form of his music, contradicts it. Beethoven's music itself will be subjected to analysis and description in chapter three.

CHAPTER 2

EXPLANATIONS FOR OUT-OF-RANGE PITCHES

1. Introduction

Thus far we have seen that Beethoven's observance of a lower boundary of F in his early orchestral music accommodates the five-stringed Viennese violone, and that that instrument was still in use in Viennese orchestras in the early decades of the nineteenth century. It remains to confront the problem of how to explain the appearance of pitches below F in works from op. 55 onward. Reviewing evidence I presented in chapter one, we are faced with two different explanations for these out-of-range pitches. First, that Beethoven did not concern himself with the compass of the double bass, and expected players of that instrument to adapt their part as they saw fit; and second, that he wrote for an instrument capable of C1. I contend that these explanations do not hold up under scrutiny. In the present chapter I will consider two different explanations for the same problem. First, I will show that many out-of-range pitches can be explained by lapses in proofreading, editing, or other issues related to source material. In fact, evidence from Beethoven's scores suggests that the appearance of pitches below E for double bass can often be attributed to simple oversight. Next I will consider documentary and circumstantial evidence indicating that Beethoven deployed contrabassoons to reinforce the double bass part in performance of his orchestral music, regardless of whether contrabassoon was in fact called for in the score. The contrabassoon has a lower compass of at least C1, and Vienna was an early center for its production, availability, and use. Its use as a member of the "basso" instrumentarium, written or unwritten, is consistent with eighteenth-century practices surrounding the execution of the

bass line in ensemble music. Finally, I will offer my own hypothesis concerning Beethoven's compositional procedure for these bass parts—one that synthesizes aspects of the two explanations.

2. Problems Related to Source Material and Errors in Proofreading

One way to explain the appearance of notes below E in Beethoven's double bass parts is to demonstrate inconsistencies in proofreading in the source material. It is well known that Beethoven's manuscripts present considerable challenges to an editor; even the most cursory examination of any autograph score is sufficient to make this point clear. Adam Carse has described Beethoven as a composer "who was maddeningly careless, who made untidy or illegible corrections, who often changed his mind, who sometimes appeared to be unable to make up his mind, and was clearly a most inefficient proofreader."¹ Carse offers the following assessment of Beethoven's proofreading of the Fifth Symphony:

Even if there was no evidence that his proofreading was desultory, one might almost safely conclude that a man with his temperament--erratic, impatient, and impulsive--who was also careless and untidy in his habits, would never take kindly to the trying and tedious process of examining and collating every note, rest, slur, and sign on 121 pages of parts and 182 pages of full score. In fact it is as good as certain that he did no such thing.²

Regarding the same problem in the music of Mozart and Haydn, James Webster has written the following:

It would naturally be premature to conclude on the basis of the evidence presented here that pitches beneath the normal range of

¹ Adam Carse, "The Sources of Beethoven's Fifth Symphony," *Music and Letters* 29, no. 3 (1948), 250-251.

² Carse, "Beethoven's Fifth," 249.

the double bass in music for that instrument by Mozart and Haydn are mere slips of the pen. But almost all such instances are, indeed, lacking in compositional weight, and there are very few of them that cannot be explained away on reasonable grounds. The alternative is to conclude that, contrary to documentary and stylistic evidence, Viennese double basses went down to C1 after all. The case for casual error seems far more plausible, however, especially in view of the occasional "corrections" these low pitches receive.³

Many occurrences of unplayable pitches in Beethoven's music are not similarly lacking in "compositional weight." But this does not preclude the possibility that many of them should be explained as "slips of the pen." Jonathan Del Mar, editor of Bärenreiter's recent urtext edition of Beethoven's nine symphonies, has written that the "central problem" in editing Beethoven is that he "was human, and indubitably there are places where he made mistakes."⁴

A frequent occurrence in Beethoven's bass parts is that a part is "corrected" to accommodate the compass of the double bass in one instance, but then not similarly corrected when the same or similar material appears elsewhere. In other cases, editing for the compass of the double bass seems to proceed to a certain point, and then suddenly stops. One example of the first type occurs in the slow movement of Beethoven's Fifth Symphony, which Adam Carse treats in his source study. Measures 31 and 80 are parallel spots with the same cadence appearing in both measures. According to Carse, the autograph score has low C for both cello and double bass in both instances, while the 1826 score, which was authorized by Beethoven, has the low C for double bass in measure 31, but corrects this to c in measure 80. Modern editions, including both **GA**, **NA**, and **S** follow the reading of the 1826 score. The version appearing in measure 80 strongly indicates Beethoven's awareness

³ Webster, "Violoncello and Double Bass," 434.

⁴ Jonathan Del Mar, "Editing Beethoven," *Musical Opinion* 133, no. 1472 (Sept/Oct 2009), 10-12.

of the lower compass of the double bass. The possibility that this change in register was intentional cannot be ruled out, but a subtle variation of this kind seems unusual, given that the cello part is the same in both instances.

The image displays two musical staves side-by-side. The left staff is labeled 'Cello' and the right staff is labeled 'Double Bass'. Both staves are in 3/8 time and have a key signature of three flats (B-flat, E-flat, A-flat). The Cello staff shows a low C note (C1) in measure 31, which is a whole note. The Double Bass staff shows a low C note (C1) in measure 31, which is a whole note. The notation is in bass clef for both instruments.

Example 2.1: op. 67, ii, mm. 31/80.

In chapter one I showed that, according to available evidence, no double bass instrument capable of C1 was in use in Vienna in the early nineteenth century. Considering this fact together with Carse's characterization of Beethoven's proofreading habits, it can reasonably be argued that the low C appearing in measure 31 is a simple lapse in proofreading. The fact that he has specifically accommodated the double bass in one instance suggests that the same correction should apply in the other.

A similar example comes from the fourth movement of the same piece (Example 2.2). Measure 32 is corrected to accommodate the limitations of the double bass, while m. 238 has been left uncorrected. Again, the fact that accommodation has been made in one instance indicates Beethoven's awareness of the problem, and the second instance can reasonably be called an oversight. In this case, the accommodation is more obvious than in the previous example. Why write the ungainly version appearing in measure 32 unless it was dictated by instrumental limitations? It is awkward, it changes

the trajectory of the arpeggio, and it breaks the octave doubling that normally obtains between cello and double bass.

Contrabassoon

Cello

Double Bass

Example 2.2: op. 67, iv, mm. 32 and 238.

The Ninth Symphony, op. 125, provides an example of the second type, where editing for the double bass seems to stop midway. In measures 18-19 of the first movement (Example 2.3), the lower compass of the double bass is clearly accommodated to avoid D:

Cello

Double Bass

Example 2.3: op. 125, i, mm. 18-19.

A similar accommodation occurs in measure 52. With the possible exception of measures 102-3, and 106-7—where the bassoons split D and d but the cello and bass remain on d—editing for the compass of the double bass stops entirely after this point. C-sharp and, especially, D, appear extensively in the remainder of the first movement, and always when the cello and double bass parts are at written unison. The second movement seems likewise to be entirely unedited for the double bass. Passages where the double bass is separate from the cello, however, do not descend below E; all instances of pitches below E appear when the two parts appear in written unison. These two circumstances suggest 1) that Beethoven did not believe the double bass to be capable of C1, and 2) that unison sections have not been edited for the compass of the double bass. It is also possible, and perhaps even likely, that these sections were left unedited because Beethoven knew that the double bass part would be reinforced by contrabassoon, since that instrument is in fact called for in this piece.

3. Use of Contrabassoon to Reinforce the Double Bass

a. Introduction

Some evidence indicates that on several occasions Beethoven used one or more contrabassoons to reinforce the double basses in performance, even though this instrument is not called for in the score. This practice provides a potential explanation for the sudden appearance of pitches from E down to C in Beethoven's orchestral double bass parts after op. 50, and possibly for the seemingly careless attitude of his editing of these double bass parts. In other words, the low notes were not intended for the double bass, but rather for the contrabassoon, which would have played from the same part as the

double bass in performance. Perhaps careful editing of these parts was unnecessary, since 1) the contrabassoon could execute pitches down to at least C1 (Beethoven in fact writes B-flat1 for it in op. 125), and 2) double bass players would have been accustomed to octave transposition as necessary.⁵

Without question, Beethoven endeavored to expand the sonority and range of the orchestra, and in particular its bottom register. According to Daniel Koury,

The fact that the orchestra changed in size during the course of the nineteenth century needs little documentation. Changes in sound were due not only to the larger number of players but also to the addition of instruments rarely if ever used in the eighteenth century, e.g., the English horn or contrabassoon.⁶

Referring specifically to Beethoven's chamber music, James Webster also points out the systematic use and development of register as a compositional resource.⁷ The same technique can be observed in Beethoven's orchestral music, which pushes both upward and downward in tessitura. But in spite of whatever desires Beethoven may have had, no known development in double bass technology made C1 available to him in the first decades of the nineteenth century. The double bass in Beethoven's Vienna was simply not capable of C1, and neither could he have imagined it to be.

The contrabassoon, however, may have been just what Beethoven was looking for—or at least the next best thing. Deployment of this instrument as

⁵ See ch. 1, pages 30–31.

⁶ Daniel Koury, *Orchestral Performance Practices in the Nineteenth Century: Size, Proportions, and Seating* (Ann Arbor: UMI Research Press, 1986), 85.

⁷ James Webster, "Traditional Elements in Beethoven's Middle-Period String Quartets," in *Beethoven, Performers, and Critics* (Detroit: Wayne State University Press, 1980), 99.

reinforcement in the sixteen-foot register provides a logical explanation for the occasional appearance of pitches below E1 for the double bass. While the evidence for inclusion of the contrabassoon presented here is perhaps not sufficient to confirm the existence of a common practice, further research with source materials might be able to establish this hypothesis more securely. Before describing the evidence itself, a brief discussion of the use of the bassoon in the orchestra in the late eighteenth century (a subject touched upon in the previous chapter), followed by a brief discussion of the contrabassoon, will place the evidence in context.

b. The Bassoon and Contrabassoon in Context

In the eighteenth century the bassoon was an integral member of the structural bass in orchestral and other ensemble music, although it was not always given a discrete part. Eighteenth-century accounts of the instrument describe both its distinctive tone and its ability to articulate the bass voice in ensemble music.⁸ Its presence was, in many cases, assumed, and not necessarily indicated in the score. Adam Carse writes that "the old bass parts are also liable to be misunderstood in that it is not generally realized that they often include the bassoon part, even though that instrument was not mentioned by name."⁹ Carse points out that nearly every eighteenth-century orchestra was well supplied with bassoon players, and that in fact they were used in much greater proportion than they are today. In spite of this circumstance, he writes,

Dozens of scores may be examined without finding any bassoon parts. In operas or oratorios they may be found in only two or

⁸ See Edgerton, "Bass Part," 163-168; and Appendix

⁹ Carse, *XVIIIth Century*, 124.

three numbers out of 30 or 40. Hundreds of the printed parts of the 18th century symphonies include no specific bassoon parts. Dozens of Haydn's symphonies in the Breitkopf and Härtel Complete Edition are without them, and of Mozart's 41 Symphonies in the same edition, 28 are without bassoon parts, and when they do occur it is almost entirely in the later works written from 1778 and onwards. Are we to suppose that these bassoon players, who were available in every orchestra, sat and did nothing when all these works were played? [...] Of course not. They played with the rest of the bass instruments as a matter of course, and only left the track of the bass part when some special melodic or harmonic part in the tenor register was written for them.¹⁰

Normal scoring for orchestral music in the mid-eighteenth century was strings in four parts (first and second violins, viola, and basso), plus pairs of oboes and horns. The oboes or horns might have been replaced or augmented by flutes or bassoons in specific situations. John Spitzer and Neal Zaslaw write that "this à 8 scoring, which could accommodate flutes alternating with oboes as well as bassoons playing along on the bass line—remained standard for published symphonies until the 1780s."¹¹ In other words, in the early and middle eighteenth century the bassoon part was not written out, even though it was nearly always present. Only much later in the century, when the bassoon began to receive occasional *obbligato* parts, and when it began to function as the bass of the orchestra's wind choir, which sometimes played on its own, would the bassoon be allotted its own line in a score. More likely, a line above the *basso* part with the indication *fagotto solo* would suffice. Bassoon *col basso*, however, remained the rule until well into the nineteenth century, though the precise nature of this practice is difficult to ascertain.

¹⁰ *Ibid.*

¹¹ John Spitzer and Neal Zaslaw, *The Birth of the Orchestra: History of an Institution, 1650–1815* (Oxford: University Press, 2004), 311.

Sara Edgerton has examined in detail practices related to the bassoon and its role in Haydn's ensemble at Esterházy. She reports that "by the second half of the eighteenth century its presence in 'symphonies' or 'orchestras' is clearly enunciated, both as a member of the bass part and as an *obbligato* voice in the ensemble."¹² Modern scholars are not in agreement about the precise nature of bassoon *col basso* procedures; Landon has proposed and applied no fewer than five different principles in his editions of Haydn's works. These can be summarized as follows:¹³ Bassoon tacet in strings-only scoring; bassoon tacet in slow movements, regardless of scoring; bassoon *col basso* throughout; bassoon rests during *piano* passages; and bassoon plays a varied bass part. Edgerton tentatively concludes that the bassoon was most likely normally tacet in slow movements, but would otherwise play *col basso* throughout. While noting that information about bassoon *col basso* procedures is wholly absent from "hundreds" of eighteenth-century sources, meaning that a broad contemporary consensus about these practices is simply not available, she writes that "the bassoon is reported to be *col basso* throughout all symphonic movements primarily in post-1800 Austrian sources." Interestingly, she also notes that "*col basso* throughout scoring for the bassoon [...] seems fairly common in Viennese sources from c. 1800 onward; prior to that time it is rarely reported."¹⁴ Thus, use of the bassoon to reinforce the bass is reported to have been on the rise in Vienna at the turn of the nineteenth century.

The contrabassoon, or double bassoon, is described in theoretical works as early as the late sixteenth century. It is mentioned in a newspaper notice

¹² Edgerton, "Bass Part," 168.

¹³ *Ibid.*, 172.

¹⁴ *Ibid.*, 177-78.

describing Handel's upcoming season in 1740, and scored by Handel in two choruses from *L'Allegro* and in the *Royal Fireworks Music*. Charles Burney describes it in 1785, and W. T. Parke in his *Musical Memoirs (1785-1830)*.¹⁵ It was used at a commemoration of Handel at Westminster Abbey in 1785. Notable technological developments occurred in Belgium in the late eighteenth century in the Tuerlinckx shop.¹⁶ The contrabassoon was a sixteen-foot instrument, from reed to bell, having a lower compass of at least C1. According to Lyndesay Langwill, Vienna was an early center for its use in the late-eighteenth and early-nineteenth centuries:

It would seem that, up to about 1850, the inclusion of the contra in scores depended entirely on whether it was locally available. As Vienna seems to have been the centre where the contra was always procurable, we find it in the scores of Haydn and Beethoven. It received little attention, however, from Mozart and less from Schubert, and it rarely occurs in German scores as it was first considered more suitable for military music.¹⁷

This assertion concurs with Adam Carse, who writes:

Some reinforcement of the bass part by a strong and flexible wind-voice was becoming an urgent need when orchestras were growing ever larger during the early years of last century [the nineteenth]. For this purpose Haydn and Beethoven had already made use of the double bassoon in Vienna, but that instrument was not to be found everywhere, and in France and England the choice fell on the old wooden serpent[...]¹⁸

Langwill has prepared a list of bassoon and contrabassoon makers to 1965.

Table I below presents information culled from his findings. Out of sixteen

¹⁵ Parke, *Musical Memoirs (1784-1830)* (London: 1830), vol. 1, 42. Taken from Lyndesay G. Langwill, *The Bassoon and Contrabassoon* (London: Ernest Benn, 1965), 116.

¹⁶ The preceding summarizes Langwill, *Bassoon and Contrabassoon*, 112-116.

¹⁷ *Ibid.*, 118.

¹⁸ Adam Carse, *The Orchestra* (New York: Chanticleer, 1949), 26.

contrabassoon makers active between 1750 and 1825, seven of these are Viennese. One of these, Stephan Koch, made contrabassoons exclusively. Nearby Prague also appears to have been a center of production, with three contrabassoon makers active in this period. Referring to Viennese contrabassoons, Langwill notes that "actual instruments (bearing the Viennese makers' names) are preserved and there are records of their use in Vienna in Beethoven's time and after."¹⁹ He cites a salary record given by Köchel of the Viennese Hoftheater in 1807 which includes "1 Contrafagott," and notes that Kastner describes the use of two contrabassoons in a Viennese performance of Handel's *Timotheus* [sic] in 1812.²⁰

TABLE 1

Contrabassoon Makers Active 1750-1825
Taken from Langwill, *Bassoon and Contrabassoon*, Appendix I.

Name	Location	Dates	Comment
Baumann	Paris	1800-30	Contra advertised 1825
Doke, Karl	Linz	1778-1826	
Finke, F.H.	Dresden	c. 1822	
Horak, Wenzel	Prague	(b)1788-(d)1854	
Kies, W.	Vienna	c. 1820	
Koch, Stephan	Vienna	(b)1772-(d)1828	Contra only
Kuss, Wolfgang	Vienna	1811-1838	
Lempp, Martin	Vienna	1788-1822	
Peuckert & Sohn	Breslau	1802-1835	
Rott, Vincenz Josef	Prague	pre-1854	(dates uncertain)
Schott, B. Söhne	Mainz	1780	
Tauber, Kaspar	Vienna	1799-1836	
Tuerlinckx, J. A. A.	Malines	(b)1753-(d)1827	
Truška, S. J.	Praga, Poland	1735-1809	

¹⁹ Langwill, *Bassoon and Contrabassoon*, 119.

²⁰ *Ibid.* Handel did not write a work called "Timotheus;" perhaps Kastner refers to *Alexander's Feast*, in which the musician Timotheus plays a role. *Alexander's Feast*, in any case, does not call for contrabassoon in its score.

Uhlmann, Joseph & Sons	Vienna	1800-51
Ziegler, Johann	Vienna	1820-47

c. Evidence for Beethoven's use of the Contrabassoon

The preceding situates Vienna as a center for early use of the contrabassoon. Langwill provides the following list of compositions where Beethoven has included the contrabassoon: Symphonies 5 and 9; the Mass in D; the overture to *King Stephen*; *The Ruins of Athens*; and a number of marches and smaller pieces.²¹ He also refers to a memorandum in Beethoven's papers mentioning the contrabassoon. This document is described in Thayer-Forbes *Life of Beethoven*, and is also referred to by Daniel Koury and A. Peter Brown. According to Thayer-Forbes, it was found among papers uncovered by Schindler after Beethoven's death. It reads: "At my last concert in the large Redoutensaal there were 18 first violins, 18 second, 14 violas, 12 violoncellos, 7 contrabasses, 2 contrabassoons."²² The program for the concert in question, from February 27, 1814, consisted of the seventh and eighth symphonies, a vocal trio, and *Wellington's Victory*. Evidently Langwill did not corroborate his list of Beethoven's works calling for contrabassoon against the program referred to by the memorandum; if he had, he might have noticed (as Daniel Koury and Asher Zlotnik have done)²³ that none of the works on this program call for contrabassoon in their scores.

Apart from this remarkable fact, the manner in which Beethoven lists the instruments is also striking. The contrabassoons are listed after the double basses, as though they belonged to the string group, or more

²¹ *Ibid.*, 120.

²² Forbes, *Thayer's Beethoven*, 576.

²³ Koury, *Orchestral Performance Practices*, 117.

specifically to the “basso” group; no other wind instruments are listed. An earlier note from Mozart suggests that this manner of grouping instruments is not without precedent. Describing the forces at a benefit concert at Vienna’s Tonkünstler Societät, Mozart wrote to his father in 1781: “There were forty violins, the wind instruments were all doubled, there were ten violas, ten double basses, eight violoncellos, and six bassoons.”²⁴ Again, the bassoons are listed along with the other members of the “basso” corps, and at the end of the strings. By category, Mozart names, in order, violins, winds, and the members of the “basso” (viola, cello, double bass, bassoon). It is worthy of mention that the Tonkünstler benefit concerts were unusual events that required participation from all the society’s members, and often presented oratorios with enormous forces; the numbers indicated in Mozart’s list should therefore not be viewed as normative in any sense. But as Peter Brown has pointed out, what should be noted are the proportions,²⁵ and in particular that the bassoons in this case are not merely doubled—as with the other winds—but rather tripled. These proportions suggest a somewhat different conception of the instrument’s role in the orchestra than that associated with it today; this conception easily accommodates the use of the contrabassoon as a reinforcement to the double bass.

Two further pieces of documentary evidence support the existence of this practice. First, a set of parts was created for a performance of the Fourth Symphony, op. 60, in 1821, under the sponsorship of the Gesellschaft der Musikfreunde. This work does not call for contrabassoon in its score. The performance took place in the *Reitschule*, a large hall normally used for

²⁴ Taken from A. Peter Brown, *The Symphonic Repertoire, vol. 2: The First Golden Age of the Viennese Symphony: Haydn, Mozart, Beethoven, and Schubert* (Bloomington: Indiana University Press, 2002), 10.

²⁵ *Ibid.*

training with horses. The orchestral forces employed were commensurately large, and Beethoven apparently added solo and tutti markings in the parts, indicating where the winds should be doubled and where they should play solo. Peter Brown²⁶ and Bathia Churgin²⁷ both refer to this performance and these parts. According to Nikolaus Harnoncourt²⁸ the parts, which are now housed in the library of the Gesellschaft der Musikfreunde in Vienna, also include indications for contrabassoon. Secondly, the musician Joseph Melzer (1763-1832), listed by Köchel as both "Violonist" and "Fagottist", is described by Focht as having a secondary obligation to play contrabassoon.²⁹ Köchel gives Melzer's tenure as "Violonist" with the Hofkapelle as 1813-1832, and as "Fagottist" from 1811-1824.³⁰ This evidence shows that the flexibility of instrumental roles described above³¹ extended well into the nineteenth century, and provides further evidence of the interchangeable nature of these duties. Furthermore, it indicates that contrabassoon would have been used in this Viennese orchestra from at least 1811 to 1824, which coincides with Beethoven's description of its use at his concert in 1814, and with the 1821 performance at the Reitschule. Additionally, Langwill's mention of the inclusion of contrabassoon in an 1812 performance of Handel's music (see above, p. 53 and n. 20) supports the existence of the practice postulated here.

²⁶ *Ibid.*, 16-17.

²⁷ Bathia Churgin, "A New Edition of Beethoven's Fourth Symphony: Editorial Report." *Isreali Studies in Musicology* I (1978), 13-14.

²⁸ Ernst Schlader, personal communication, 31 January 2013.

²⁹ Focht, *Wiener Kontrabass*, 189. "Joseph Melzer war als Kontrabassist in der Hofoper mit der Nebenverpflichtung zum Kontrafagott angestellt."

³⁰ Köchel, *Kaiserliche Hof-Musikkapelle*, 94-95.

³¹ See chapter 1, pages 25-9.

Beethoven did specifically indicate contrabassoon in the fourth movement of the Fifth Symphony, op. 67. This work, along with the Sixth Symphony, op. 68; the Fourth Piano Concerto, op. 58; and the Choral Fantasy, op. 80; was given its first performance at Beethoven's *Akademie* of December 12, 1808. The notated part for the contrabassoon is exactly the same as the double bass part in this piece—comparison of the two parts shows them to be identical, apart from sections where the contrabassoon is tacet. When the contrabassoon plays, its part is the same as that of the double bass. The fact that the contrabassoon part is extracted from the double bass part is made clear by the example from the fourth movement cited above (see example 2.2, page 46). In measure 32, Beethoven has clearly accommodated the lower compass of the double bass; he starts the cello arpeggio from its open C string.³² Yet when the same material returns in the recapitulation, in measure 238, the same accommodation has not been made, suggesting that the second instance is an oversight. In the present context the significance of this example lies in the fact that the “correction” in measure 32 for the double bass has been transferred to the contrabassoon part as well, where it is not necessary. Presumably, the extended lower compass of the contrabassoon was one of the principal reasons for its inclusion in the orchestra, since bassoons capable of C are already found there.

The importance of this example is thus twofold: first, it provides a clear indication that Beethoven did *not* suppose a lower compass of C1 on the double bass, even in works after op. 55; second, the appearance of

³² Interestingly, Sankey proposes altering this measure so that only the c on the second eighth-note of the passage is played in the upper octave, in order to “achieve maximum weight” for the passage. This is a most natural suggestion if one assumes a lower compass of E, but not if F is the assumed boundary, which may well have been Beethoven's reflex, even as he began to write E for double bass from op. 55 and onward. Sankey, “Minor Alterations,” 95.

Beethoven's accommodation for the compass of the double bass in the contrabassoon part provides evidence that the contrabassoon did not have its own discrete part. It is conceivable—though unlikely—that the discrepancy between measures 32 and 238 is intentional, and not an oversight: that Beethoven meant to show two different ways of executing the passage, taking for granted that the respective players would understand which one applied to them. More likely—though not possible to establish with certainty—is that the presence of the contrabassoon as reinforcement resulted to one extent or another in Beethoven's relaxed disposition toward the careful editing of the bass part for the compass of the double bass. In either case, what this example and others like it make plain is Beethoven's awareness that the limited lower compass of the double bass was something that needed to be accommodated in his writing of the bass part. Indeed, he demonstrates this awareness repeatedly throughout his orchestral music, even in much later works. The later editorial decision to have the contrabassoon follow the double bass is a mistake probably arising from a too literal interpretation of "contrafagot col basso" or the like. It is much more logical for the contrabassoon to follow the notation of the cello in this and other instances, thereby providing the sixteen-foot doubling that it is capable of, and that is probably the central motivation for its inclusion in the orchestra. Further research with source materials might be able to clarify this discrepancy. However, given the dearth of specific information about *col basso* practices outlined above, a definitive conclusion on this matter may be impossible.

Beethoven's memorandum demonstrates that he used contrabassoons in a performance of the seventh and eighth symphonies, where they are not called for in the score. One may assume that at least one contrabassoon was also

present for the concert of December 12, 1808, where the instrument *is* called for, in the Fifth Symphony. Having established that a separate part for the contrabassoons would not have been written out, and bearing in mind eighteenth-century practices regarding the participation of the bassoon, it is reasonable to postulate that the contrabassoons might also have played in the other works on the program (*Wellington's Victory* and the Sixth Symphony, where the double bass part descends to C1 on several occasions), and therefore that Beethoven wrote down to C knowing that the contrabassoon would be present on this program. Supposing, on the other hand, that Beethoven believed the double bass to be capable of these pitches is not similarly reasonable—there is simply too much evidence to the contrary in his scores, and a complete lack of evidence supporting the existence of such an instrument. It is not yet known why Beethoven indicated contrabassoon in the score for op. 67 and not in other scores, where it was evidently employed in performance. Perhaps he simply wanted to be certain of the weightiest possible bass sound in the fourth movement of this symphony, where in other cases he adjusted the size (and instrumentation) of the bass group based on the performance venue and the size of the rest of the orchestra. Several sources describe the practice of varying orchestral forces based on venue and occasion in this period,³³ and it is also certain that Beethoven was keenly aware of the “dynamic impact” of his music, as Daniel Koury has called it, and would have wanted to maximize its effect in any given venue. Koury describes a letter from Beethoven where he is keenly interested in the both

³³ See for example Koury, *Orchestral Performance Practices*, ch. 8; Brown *Golden Age*, ch. 1; Edge, “Mozart’s Viennese Orchestras,” 63–88.

the size and power of the orchestra and the characteristics of the hall for a performance of his music by the Philharmonic Society in London.³⁴

Numerous examples from op. 55 and onward show that Beethoven clearly accommodated the lower compass of the double bass, even in later works, while also using the lowest part of the cello register. Incorporating the lowest part of the cello register while keeping the double bass above F was a departure from earlier classical practice, and from his own practice up to op. 50. This technique appears for the first time in the *Creatures of Prometheus* Overture, op. 43, and reappears throughout Beethoven's orchestral works.

Example 2.4: op. 43, mm. 4-12.

Clearly, Beethoven wanted to use the lowest sonorities available to him, and to make the most of the orchestral resources at his disposal. This being the case, he must have had a keen awareness of the limitations he faced.

Unwritten use of the contrabassoon to reinforce the double bass part in performance—perhaps according to specific performance conditions—provides a logical explanation for the appearance of pitches in Beethoven's double bass parts descending to C1, and could in some measure account for the lack of attention to detail that is sometimes evident in the editing of these parts

³⁴ Koury, *Orchestral Performance Practices*, 118.

for the compass of the double bass. In other words, perhaps Beethoven was less than concerned with precise editing of these parts because he knew that they were playable on the contrabassoon. His memorandum certainly indicates that he counted the contrabassoon among the instruments of the bass instrumentarium. The evidence presented here is perhaps not conclusive enough to establish a common practice. It does, however, meet with initial documentary support. Further research with source materials may be able to establish and clarify this practice with more certainty.

4. Compositional Procedure in Beethoven's Bass Parts: A Hypothesis

Considering the case for the inclusion of contrabassoon alongside evidence from Beethoven's scores suggests a hypothesis concerning Beethoven's procedure for composing his bass parts: First, a general "bass" part would have been written, with C as its lower boundary. (Perhaps it goes without saying, but it is worthy of notice that Beethoven never writes below C in the bass part at all. This boundary, clearly dictated by the lowest string of the cello, is inviolate.) Next—probably once he had received a galley score from his publisher—Beethoven would have gone through and "corrected" the part to account for the limitations of the double bass. Verbal indications for addition and subtraction of contrabassoon, where applicable, would also have been added at this point.

In this light, consider the example above from the second movement of op. 67, mm. 31 and 80. According to Adam Carse, the autograph score has low C both times, and the 1826 score has measure 80 corrected. Carse also notes that the 1809 set of parts has low C in both instances; these were prepared by copyists, and it is entirely possible that Beethoven never even saw them,

much less carefully inspected them.³⁵ The procedure is therefore consistent with the explanation offered above, namely that measure 31 was simply overlooked by a less than thorough proofreader. The autograph was written first, heeding only the lower compass of the cello, and then handed over to a publisher who would at some point come back with a galley score for correction. The correction was made in one instance, and overlooked in the other. It is hardly remarkable that this procedure was often left incomplete. Rehearsal and production periods were extremely short in Beethoven's early concerts—indeed for all concerts in Vienna in Beethoven's time—and conditions were not at all favorable for musicians in general.³⁶ The copying and subsequent checking of parts, on the other hand, was an extremely laborious and time-consuming process. Combine these conditions with Beethoven's notorious lack of thoroughness and attention to detail, and the result reflected in his bass parts can hardly be called surprising.

Further support for this hypothetical procedure can be found in the *King Stephen Overture*, op. 117. Beethoven specified contrabassoon in the score for this piece. Modern editions place the contrabassoon part out on its own staff; but as noted above, Beethoven almost certainly indicated with

³⁵ According to Adam Carse, "Beethoven definitely authorized the publication of the parts of the Symphony in 1809 and of the score in 1826, but it cannot be taken for granted that he carefully checked the proofs of either before they were published and made sure that the music was exactly as he intended it to be. Even if there was no evidence that his proofreading was desultory, one might almost safely conclude that a man with his temperament—erratic, impatient, and impulsive—who was also careless and untidy in his habits, would never take kindly to the trying and tedious process of examining and collating every note, rest, slur, and sign on 121 pages of parts and 182 pages of full score. In fact it is as good as certain that he did no such thing." Carse, "Beethoven's Fifth," 253.

³⁶ See Morrow, *Concert Life*; Clive Brown, "The Orchestra in Beethoven's Vienna," *Early Music* 16/1 (Feb 1988), 4–20; Otto Biba, "Concert Life in Beethoven's Vienna," in *Beethoven, Performers, and Critics*, 77–93; David Pickett, "A Comparative Survey of Rescorings in Beethoven's Symphonies," in *Performing Beethoven* (Cambridge: University Press, 1994), 205–6.

words in the bass part where the contrabassoon was to play and not to play. This hypothetical working procedure—together with a touch of carelessness that is so often evident—offers a potential explanation for the appearance of E-flat and D in mm. 144 to 152 of the double bass part, despite the fact that the contrabassoon is not playing.

Contrabassoon

Cello/
Double Bass

Example 2.5: op. 117, mm. 144-52.

At first glance, this example might be taken as evidence *against* the contrabassoon hypothesis offered above: the low pitches are written in the bass part, and yet clearly, the contrabassoon is resting. But supposing Beethoven wrote the overall part first, employing a range suitable for both cello and contrabassoon, and then adding and subtracting the contrabassoon with verbal indications, a different view emerges. To wit: the pitch content of the part could have been written with the compass of cello (and contrabassoon) in mind. Perhaps, when the contrabassoon was subsequently subtracted from the passage for dynamic considerations (with “senza contrafagot or the like)—measures 145 to 152 are subito *p* and *pp*—correction for the compass of the double bass was simply overlooked, as on so many other occasions.

In the same piece, Beethoven does in fact make accommodations for the compass of the double bass (examples 2.6, 2.7), demonstrating once again that

he understood such compensation was necessary. These corrections have been carried over to the contrabassoon part, where they are not necessary. In measures 5-8, for example, the contrabassoon could easily join the cello on the low C, sounding C1, rather than taking the upper c, sounding C, with the double bass. The possibility that Beethoven intended this difference in register cannot be eliminated. However, octave doubling is by far the most normal disposition for a sixteen-foot instrument, and in the case of the cello-double bass pairing, deviations from this situation are either for the cello to rise and take a melodic role, or to accommodate the lower compass of the double bass. I will show examples in chapter three where Beethoven departs from octave doubling between cello and double bass, and then immediately returns to it as soon as the pitches are back inside the compass of the double bass. It seems most logical that the contrabassoon should do the same here.

The musical score shows three staves for measures 5-8. The top staff is for the Contrabassoon, the middle for the Cello, and the bottom for the Double Bass. The key signature has two flats (B-flat and E-flat), and the time signature is 2/4. The Contrabassoon part starts with a half note on C1 (two ledger lines below the staff) in measure 5, marked *f*, and continues with a half note on C1 in measure 6, marked *ff*. The Cello and Double Bass parts are in octave doubling. The Cello part starts with a half note on C2 (three ledger lines below the staff) in measure 5, marked *f*, and continues with a half note on C2 in measure 6, marked *ff*. The Double Bass part starts with a half note on C1 (two ledger lines below the staff) in measure 5, marked *f*, and continues with a half note on C1 in measure 6, marked *ff*.

Example 2.6: op. 117, mm. 5-8.

Contrabassoon

Cello

Double Bass

f *ff* *f* *ff*

Example 2.7: op. 117, mm. 21-24.

5. Conclusion

In this chapter I have considered and discussed two categories of potential explanation for the appearance of unplayable pitches in the double bass parts of Beethoven's orchestral music. While on the one hand these are separate issues—one a question of editing and the other a performance practice convention—in fact they interact extensively as explanations for the problems I address in this study. On the one hand, the existence of the practice of reinforcing the double basses with contrabassoons could explain, to one extent or another, Beethoven's seeming lack of thoroughness and attention to detail in the editing of his bass parts. On the other, the addition to and subtraction of contrabassoon from the bass part creates further complications in the editing and eventual clarification of that part for the three instruments that would have used it. Individual musicians would almost certainly have worked out these complications in the context of a performance; the idea of an Urtext edition, so important to musicians today, was nowhere to be found in the eighteenth and early nineteenth centuries. Without further research on source materials—and possibly even with that

research—it is not possible to assign with certainty each and every unplayable pitch to one or the other explanation I have offered in this chapter. Many instances lean one way or the other, while many tolerate both explanations; still others remain ambiguous. Nonetheless, I will apply my hypothesis in chapter three with analysis of individual works, and will provide tables listing each instance of out-of-range pitches from the works included in the study.

CHAPTER 3

ANALYSIS OF BEETHOVEN'S ORCHESTRAL BASS PARTS

1. Op. 15 to op. 50: Introduction

Bass parts in Beethoven's early orchestral works adhere closely to the conventions he inherited from Haydn and the late classical period. Works included in this group are Piano Concertos Nos. 1, 2, and 3 (opp. 15, 19, and 37); Symphonies 1 and 2 (opp. 21 and 36); Romances 1 and 2 for violin and orchestra (opp. 40 and 50), and the overture to *The Creatures of Prometheus* (op. 43). These pieces have a clearly delineated lower boundary of F, and at the same time they conspicuously avoid the bottom register of the cello, from E down to its resonant open C string. (Table 2 lists instances of pitches below F in these works.) The F boundary observable in these works, when considered alongside evidence discussed in Chapter 1, points strongly to the Viennese five-string violone as the instrument Beethoven wrote for at this point; however, this boundary would also accommodate four-stringed instruments tuned F A d g, which are mentioned by Albrechtsberger and others. Therefore, these cannot be excluded—in all probability both types of instrument, and perhaps others as well, were used side by side on various occasions. From op. 55 forward Beethoven seems to assume a lower boundary of at least E (on occasion E-flat or D) for the double bass. This fact does not, however, necessarily indicate the modern, fourths-tuned instrument, since the tuning E A d f# a is mentioned by the Viennese Jeitteles in 1839. Variable tuning of the bottom string, as described by Hindle and Focht and discussed in chapter one, can also account for this boundary.

a. Piano Concertos 1-3: op. 15, op. 19, and op. 37

The First Piano Concerto, op. 15, contains not a single note below F for either cello or double bass. The work is in C major, so that the complete absence of the cello's open C string is somewhat striking—indeed, Beethoven's string quartets of the same period (op. 18) utilize this asset extensively. I submit that it is entirely avoided here in deference to the lower compass of the double bass. The final two bars of the piece (example 3.1) illustrate this effectively. The first violin, second violin, and viola parts traverse three octaves in cadential descent, but the cello and double bass stop short, in spite of the cello's capability to follow suit:

Violin I

Violin II

Viola

Cello/
Double Bass

The musical score for Example 3.1 shows the final two bars of the first movement of Beethoven's Piano Concerto No. 1, Op. 15. The score is for Violin I, Violin II, Viola, and Cello/Double Bass. The key signature is C major (no sharps or flats) and the time signature is 2/4. The music shows a cadential descent in the upper strings, with the first violin, second violin, and viola parts descending three octaves. The cello and double bass parts stop short, ending on F notes.

Example 3.1: op. 15, iii, mm. 570-1.

The second movement of the Second Piano Concerto, op. 19, has three instances of E-flat (examples 3.2 and 3.3); its first and third movements do not contain anything below F.

Viola

Cello/
Double Bass

f *sf*

Example 3.2: op. 19, ii, mm. 69-70.

Violin I pizz

Violin II pizz

Viola pizz

Cello/
Double Bass pizz

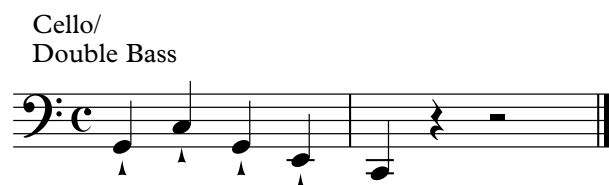
Example 3.3: op. 19, ii, mm. 90-91.

The context of these instances suggests that they might have simply been transposed by double bass players. The first is a harmonic downbeat which immediately returns to the upper octave. Interestingly, E-flat is assumed in measure 69, but D-flat is clearly avoided for both cello and double bass in the following measure. The second instance is two pizzicato notes that end the movement—all strings are in their lowest register. All three of these could easily have been transposed without noticeable musical effect. However,

Johann Hindle's mention of the effectiveness of lower pitches in adagios and pianos (see ch. 1, p. 21), together with the fact that several of Beethoven's slow movements seem to assume E-flat for a lower boundary, suggest that re-tuning of the bottom string may have been expected here. The extent of this out-of-range material, however, suggests that this might not have been worth the effort in this instance. The possibility of oversight exists in this instance too, but the careful editing in the rest of the work, and of works surrounding this one, argues against that possibility. In any case, Beethoven's use of pitches outside the compass of the double bass in this work is minimal. The third Piano Concerto, op. 37, has nothing at all below F for either cello or double bass. Its key is C minor, where once again the cello's open C string might have been deployed to good effect, but it is conspicuously avoided.

b. Symphonies 1 and 2, op. 21 and op. 36

Symphony No. 1, op. 21, descends below F in two instances at the end of the first movement, and nowhere else. The descending arpeggio culminating in mm. 292 and 293 has both E and C (example 3.4), while the last two bars of the movement (mm. 296-7) have a double-stopped C-c (example 3.5).



Example 3.4: op. 21, i, mm. 292-3.

Cello/
Double Bass



Example 3.5: op. 21, i, mm. 296-7.

Example 3.4 is very likely an oversight in proofreading, since the rest of the movement—indeed, the rest of the piece—observes a boundary of F without exception. In example 3.5, both the cello and double bass parts are contained in the double stop. The cello can easily (and effectively) execute both notes, and the bass would simply take the upper one. This is perhaps the earliest example of Beethoven's using the bottom register of the cello while holding the double bass above its lower compass. The isolated nature of these instances—in view of the consistency of the bass range in the remainder of the piece—strongly suggests that these instances are simply "slips of the pen." The second, third, and fourth movements of this piece do not have anything at all below F. Symphony No. 2, op. 36, also conforms neatly to the boundary, with not a single pitch below F for cello or double bass. Interestingly, some of the more virtuosic arpeggiated figures in this piece, for example mm. 249-50, can be executed much more simply in the Viennese tuning, using open strings and closer intervals than those of the fourths-tuned instrument.

c. Romances 1 and 2 for Violin and Orchestra, op. 40 and op. 50.

The Romances Nos. 1 and 2 for violin and orchestra, opp. 40 and 50, also stay entirely above the F boundary. In fact, the lowest pitch in op. 40 is G. Despite having the latest opus number (op. 50), Romance No. 2 corresponds chronologically with the earliest works in this group, having

been written in 1798, four years before Romance No. 1. The lowest pitch in this piece is F. Measures 83 and 84 (example 3.6) illustrate Beethoven's avoidance of the cello's bottom register in this piece. All strings are in their lowest register on a dominant chord, except for the cello, whose available open C string is conspicuously left alone.

The image shows a musical score for measures 83 and 84 of Beethoven's Op. 50. It consists of four staves: Violin I, Violin II, Viola, and Cello/Double Bass. The key signature is one flat (B-flat), and the time signature is common time (C). In measure 83, the Violin I and Violin II staves have a half note G2 (one ledger line below the staff) and a half note F2 (two ledger lines below the staff). The Viola staff has a half note G2 and a half note F2. The Cello/Double Bass staff has a half note G2 and a half note F2. In measure 84, the Violin I and Violin II staves have a half note G2 and a half note F2. The Viola staff has a half note G2 and a half note F2. The Cello/Double Bass staff has a half note G2 and a half note F2.

Example 3.6: op. 50, mm. 83-4.

d. *Creatures of Prometheus Overture*, op. 43

The final work in this group, the *Prometheus* overture, op. 43, has nothing at all below F for double bass, but its opening *Adagio* (see example 2.4, p. 60) shows a departure from Beethoven's earlier handling of the cello. Here he takes advantage of its bottom register, while keeping the double bass above its lower compass of F. On the one hand this represents a departure from the earlier classical practice of avoiding the cello's bottom register in deference to the double bass. On the other, it is a clear acknowledgement of Beethoven's understanding of the limitations of the double bass instruments in use in his day.

2. Analysis and Conclusion, op. 15 to op. 50

Collectively these eight works demonstrate without question that Beethoven began writing for the double bass very carefully within the confines of the conventions he inherited from the Viennese late-classical period. Of the twenty movements or single movement works in this group, only three contain notes written below F; two if op. 43 is excluded, where the notes below F are clearly indicated for cello only. The total number of notes below F for cello and double bass combined is 11; total number of notes below F for double bass is 7.

Beethoven's careful adherence to a lower boundary of F in these works strongly indicates that he was writing for the Viennese five-stringed violone. After this point, Beethoven's handling of the bass part changed in certain respects. One of these changes is first encountered in op. 43, with the use of the bottom register of the cello, while keeping the double bass above F—a technique that he continued to develop and use in later works. Apparently, Beethoven wanted to take advantage of the full extent of the bottom register of the cello, even if the double bass could not follow suit. Another change is the appearance of pitches down to C in the cello and double bass parts, which is apparent from op. 55. Explanations for these have been discussed in chapter two. In any case, these departures cannot be explained by the passage of time, as these works were produced in a more or less continuous stream during one of Beethoven's most productive periods: The latest of the works in this group, op. 43, was completed in 1802; the Eroica Symphony, op. 55, was completed in 1803, although Beethoven continued to work

with it during a long-term private "residency" arranged by Prince Lobkowitz before its public premiere in 1805.¹

¹ See Tomislav Volek and Jaroslav Macek, "Beethoven's Rehearsals at the Lobowitz's," *Musical Times* 127 no. 1716 (February 1986), 75-80.

Table 1
Downward Range of Beethoven's Orchestral Works to op. 50

Opus no./ mvt.	Lowest Note	Notes Below F vc/cb measure no: pitch
15/i	F	none
15/ii	F	none
15/iii	F	none
19/i	F	none
19/ii	E-flat	69, 91, 92: E-flat
19/iii	F	none
21/i	C	292: E; 293, 296, 297: C
21/ii	F	none
21/iii	F	none
21/iv	F	none
36/i	F	none
36/ii	F	none
36/iii	F#	none
36/iv	F#	none
37/i	F	none
37/ii	F#	none
37/iii	F	none
40	G	none
43	F# (cb)/C (vc)	for vc: 5, 6, 9, 10: C
50	F	none

2. Op. 55 to op. 125: Introduction

From op. 55 onward, pitches from E down to C begin to appear with greater frequency in Beethoven's bass parts. In addition, from op. 56, a lower boundary of E, rather than F, is most commonly assumed. This change might reflect to some degree the growing popularity of the four-stringed, fourths-tuned bass in orchestral situations, but does not exclude the Viennese five-string, since, as mentioned above, some sources document the tuning E A d f# a. The use of contrabassoon to reinforce the double bass is also a factor in this equation—clearly Beethoven wanted to push the available range downward. Even so, he demonstrates a keen awareness of the lower compass of the double bass in works through to op. 125, so the appearance of out-of-range pitches from op. 55 onward must be accounted for in some other way. It is simply not the case that Beethoven disregarded the capabilities of the instrument; nor is it the case that he wrote for a double bass instrument capable of C1.

Works in this group include Symphonies 3–9 (opp. 55, 60, 67, 68, 92, 93, and 125); the Triple Concerto, op. 56; Violin Concerto, op. 61; Piano Concertos 4 and 5 (opp. 58 and 73); The *Coriolan* and *Leonore* Nos. 2 and 3 Overtures (opp. 62 and 72); the Choral Fantasy, op. 80; and the *Egmont*, *Ruins of Athens*, *Namensfeier*, *King Stephen*, and *Weihe des Hauses* Overtures (opp. 84, 113, 115, 117, and 124). These works will be considered individually in order of their opus numbers, which roughly approximates their chronology. Instances of pitches below E in these pieces are listed in Table 3. Some of these instances will be addressed in the sections corresponding to individual works, but descriptions of instances where Beethoven has visibly accommodated the lower compass of the double bass will be the focus of these descriptions.

a. Symphony No. 3, op. 55

The first movement of the *Eroica* Symphony suggests the possibility that a scordatura of the bottom string to E-flat or D was intended. Leaving aside mm. 346-60, which are clearly lacking correction for the compass of the double bass (or perhaps intended for contrabassoon), and measure 254, where the upper c is clearly indicated as well as the lower one, nothing is written below E-flat. Instances where Beethoven has clearly accommodated the compass of the double bass lend further support to this assertion. Measures 539-42 (example 3.7) illustrate the point particularly well:

Cello

Double Bass

Example 3.7: op. 55, i, mm. 539-42.

The lower octave for the cello is used here, while the double bass remains in the upper octave until the E-flat on the downbeat of m. 542. Dynamic considerations could also have influenced this choice, but it seems unusual that the double bass would be written in this irregular way, were it not primarily for considerations of range. The E-flat in measure 542, however, seems to be assumed possible for the double bass, and the several other appearances of that pitch (mm. 42, 486, 512) also suggest that re-tuning of the lowest string might have been expected for this movement. If in fact E-flat is assumed to be the lowest note on the double bass, it is interesting that Beethoven returns to octave doubling between the two instruments as soon

as this is once again possible. Clearly, instrumental range was a consideration.

Measures 557-63 (example 3.8) also show accommodation of the limitations of the double bass. Here once again the double bass is kept above its lower compass, while the lowest register of the cello is used. The dynamic level in the passage is, on the whole, strong, so that it seems very likely that Beethoven would have used the sixteen-foot octave had he thought it possible.

Cello

Double Bass

The musical score for measures 557-63 of the first movement of Beethoven's Op. 55. The Cello part (upper staff) and Double Bass part (lower staff) are shown. The key signature is two flats (B-flat and E-flat), and the time signature is 3/4. The Cello part starts with a forte (f) dynamic, followed by a piano (p) dynamic, then a fortissimo (ff) dynamic, and ends with a piano (p) dynamic. The Double Bass part also starts with a forte (f) dynamic, followed by a piano (p) dynamic, then a fortissimo (ff) dynamic, and ends with a piano (p) dynamic. The notes are mostly half notes and quarter notes, with some slurs indicating phrasing.

Example 3.8: op. 55, i, mm. 557-63.

The second movement of the *Eroica* has only three out-of-range notes, and once again they are all E-flat (mm. 3, 107, and 181). Whereas in the first movement this pitch appears where the cello and double bass are in written unison, in this case the pitch is specifically indicated for the double bass alone, suggesting that Beethoven expected the realization of this pitch on the double bass. It is also possible that Beethoven intended these pitches to be executed by contrabassoon, but the tendency of the bassoon *col basso* to drop out in slow movements, as described in chapter 2, argues against use of the contrabassoon in this instance. Moreover, the assumption of E-flat evident in the first movement argues for the same expectation here.

Three instances in this movement demonstrate Beethoven's awareness of the lower limitations of the double bass (examples 3.9, 3.10, and 3.11):

Cello

Double Bass

cresc. *sf*

sf

Example 3.9: op. 55, ii, m. 30.

Cello

Double Bass

p

p

Example 3.10: op. 55, ii, m. 153.

Cello

Double Bass

sf

sf

Example 3.11: op. 55, ii, m. 194.

These passages avoid both C and D for the double bass, suggesting again that E-flat was the expected lower boundary for this movement.

The third movement of op. 55 has the familiar F for its lowest note. The fourth movement, however, makes extensive use of D in addition to several instances of E-flat. This once again suggests the possibility of a scordatura of the bottom string. Focht describes a tuning in use at the beginning of the nineteenth century (D A d g) cited by both Koch and Nicolai, and cites the fugue theme from this movement as “the most popular example of its use.”² The assumption of such a tuning for this piece in its entirety leaves only mm. 346-60 from the first movement with unplayable pitches.

b. Triple Concerto, op. 56

In the Triple Concerto Beethoven clearly assumes a lower boundary of at least E in the bass part. In the first movement there are only two notes below E (m. 72 (D), and m. 74 (C)); in the second, three (mm. 3, 12, and 23 (all E-flat)); and in the third, another two (mm. 59-61 (C), and 76-77 (D)). Yet the E itself is used extensively, and sometimes in a melodic/thematic context. The first movement uses E fifteen times, and the third movement uses it eight times. Measures 34-36 (example 3.12) illustrate Beethoven’s assumption that E is possible for the double bass:

Example 3.12: op. 56, i, mm. 34-36.

² Focht *Wiener Kontrabass*, 39-40.

In this example the double bass has E in a pizzicato line while the cello plays a different figuration. The D and C in mm. 72 and 74 are almost certainly oversights in proofreading, especially considering the last two measures of the movement, where both cello and double bass have c; all other strings are playing their lowest possible C. The two Cs in mm. 60-61 of the third movement are also likely candidates for oversight in proofreading. Yet again in the slow movement Beethoven seems to assume that E-flat is possible for the double bass. This can be seen in mm. 9-13 (example 3.13):

The image shows a musical score for Cello and Double Bass. The Cello part (top staff) is in bass clef with a key signature of three flats and a 3/8 time signature. It contains five measures of music, all featuring eighth notes. The first measure is marked *(pp)*, and the fourth measure is marked *sf* and *p*. The Double Bass part (bottom staff) also has a bass clef, three flats, and a 3/8 time signature. It has rests in measures 9, 10, and 11, and then enters in measure 12 with a pizzicato line (indicated by a vertical line through the stem) in E-flat, marked with a *p* dynamic.

Example 3.13: op. 56, ii, mm. 9-13.

The cello has E-flat three times on its own, most likely for dynamic considerations, but when the double bass enters in m. 12, it is also on E-flat. Scordatura of the bottom string may well have been expected for this movement; in spite of the *attaca* to the third movement, where E is again assumed as a lower boundary, there is sufficient time to accomplish the re-tuning at the end of the second movement (mm. 25-39) and during the rests at the beginning of the third.

c. Piano Concerto No. 4, op. 58

The Fourth Piano Concerto has three instances of D and E-flat in its first movement. These are in all likelihood oversights, as they occur in written unison with the cello part. Other than passages where Beethoven writes *uno Violoncello*—mostly in the third movement—there is not much separation between cello and double bass in this piece. In measure 80 of the third movement Beethoven writes a D pedal for *uno Vc. col arco* and a d *pizzicato* for the double bass, but this is not a clear case of accommodation, since the cello is always alone on all of these pedal places. A slightly stronger case is mm. 467–71 of the same movement, where the cello has C–c double stop, and the double bass has two *pizzicati* on c. The third movement has E-flat three times and D twice, but all occur in written unison. As a whole this piece does not show evidence of much editing for cello and double bass specifically.

d. Symphony No. 4, op. 60

The Fourth Symphony once again assumes a lower compass of E for the double bass. The first movement has only one note below E: an E-flat in measure 245, which is the culmination of a descending arpeggiated figure, and is a likely candidate for proofreading oversight. The existence of other accommodations for the lower compass of the double bass once again support this assertion. First, mm. 2–4 (example 3.14) are clearly written with the limitations of the double bass in mind. In fact, it can even be contended that the double bass has the “real” shape of the figure in this instance—the cello jumps up at the end of measure 4 in accommodation of its lower compass instead of continuing the sequential descent by thirds. It seems clear that Beethoven wanted the lowest possible tessitura in this passage, and would

have written the double bass in the lower octave if he had thought it possible to do so. These measures are repeated exactly in mm. 14-16.

Cello

(p)

pp

Double Bass

(p)

pp

Example 3.14: op. 60, i, mm. 1-5.

Next, in measure 176 (example 3.15) the cello drops to its open C string, while the double bass stays on c:

Cello

ff

Double Bass

ff

Example 3.15: op. 60, i, mm. 173-177.

The second movement of op. 60 has four problematic places for the double bass. However, the known inclusion of contrabassoon for this piece on at least one occasion can possibly account for these. Measure 33 has a melodic low E-flat for both cello and double bass in unison. Measures 53 and 54 (example 3.16) have a separate descent from G-flat to D-flat, with the

cello leaping up an octave after each beat, and the double bass remaining in the lower octave:

The image shows a musical score for Cello and Double Bass. The Cello part is written on a single staff with a treble clef and a key signature of two flats (B-flat and E-flat). It features rapid sixteenth-note runs in measures 52-54, with dynamics marked as *[sf]* (sforzando) and *[f]* (fortissimo). The Double Bass part is written on a single staff with a bass clef and the same key signature. It plays a slower, more rhythmic pattern, with dynamics marked as *f* (fortissimo) and *p* (piano). The score is for measures 52-54 of the second movement of Beethoven's Op. 60.

Example 3.16: op. 60, ii, mm. 52-4.

The awareness of range demonstrated in the opening bars of the first movement is certainly not present here, but dynamic considerations are likely to have come into play, as the score suggests clearly that maximum weight and volume were desired. The inclusion of contrabassoon, which is known to have happened on at least one occasion under Beethoven's supervision, might best explain the presence of these notes. The scale down to C at the end of the movement, mm. 100-101, suggests the same explanation.

The third movement of op. 60 has nothing below F for double bass, but the cello part descends to D in measure 49 while the double bass rests. The same occurs again in the trio, mm. 151-2, where Beethoven utilizes an E-flat pedal from the cello while the double bass rests. The fourth movement has one instance, in mm. 96-100 (example 3.17), which clearly shows accommodation for the lower compass of the double bass:



Example 3.17: op. 60, iv, mm. 96-100.

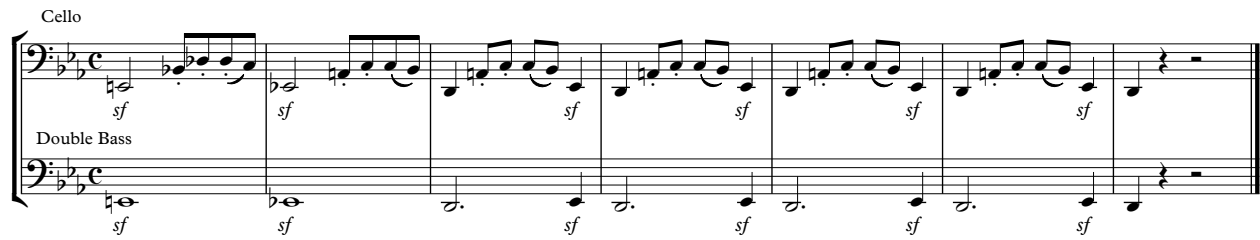
Only one instance of writing below E occurs in this movement: the E-flat in measure 103b. This instance is in all likelihood an oversight, but once again the inclusion of contrabassoon might account for its remaining in the part.

e. Violin Concerto, op. 61

The Violin Concerto, like the two previous works, definitely assumes a lower compass of E for the double bass, and contains only one instance of writing below this boundary, in measure 334 of the first movement. In mm. 60-64 of the second movement, the cello has E and D while the double bass rests. The same occurs again in the third movement, where the cello again has prominent use of D in its thematic material (mm. 1-2, 5-6; 93-94, 97-98; 174-75, 178-79) while the double bass rests.

f. Coriolan Overture, op. 62

Beethoven wrote the *Coriolan Overture* in 1807, and it received its first performances at the castle of Prince Lobkowitz, one of Beethoven's most steady patrons. This piece suggests either the use of the D A d g or D A d f# a tunings mentioned above, or the inclusion of contrabassoon. This is most clearly illustrated by two examples (3.18 and 3.19):



Example 3.18: op. 62, mm. 44-50.



Example 3.19: op. 62, mm. 62-64.

In the first example, a lower compass of D is clearly assumed; yet in the second, C is clearly assumed not to be possible. The same can be said of mm. 312-14. Aside from an E-flat in m. 254, the remainder of the piece stays at or above E. The prominence of the bass line in mm. 44-50, and the fact that the cello has different material at that moment, argue strongly for either scordatura or the inclusion of contrabassoon in this instance.

g. Symphony No. 5, op. 67

The opening measures of this work (example 3.20) clearly indicate Beethoven's understanding of the lower compass of the double bass:

Cello

Double Bass

ff

Example 3.20: op. 67, i, mm. 1-5.

The same arrangement occurs again in mm. 126-28. In mm. 168-70 the open C string in the cello is added for extra resonance, while the double bass remains on c. From these three places alone, one can safely conclude that Beethoven did not suppose the double bass to be capable of C1; if he had, surely he would have written it in these places, where he clearly wanted maximum weight and depth in the texture. Measures 182-7 (example 3.21) show another clear accommodation for the double bass, in this case writing around D:

Viola

Cello

Double Bass

Example 3.21: op. 67, i, mm. 182-87.

The entire passage from mm. 240-252 is taken an octave up for the double bass, presumably in order to avoid leaping up for the E-flat in measure 249.

Once again in mm. 442-3 (example 3.22) the compass of the double bass is accommodated; this time the accommodation is particularly obvious, as the double bass part goes back down to its sixteen-foot doubling role the moment that it is within range again, in mm. 446-51.

The image shows a musical score for five instruments: Violin I, Violin II, Viola, Cello, and Double Bass. The score is for measures 442-451 of a piece in three flats and 2/4 time. The notation includes various note values, rests, and accidentals. The Double Bass part is written in a way that accommodates its range, often doubling the Cello part. The score is presented in a standard musical notation format with a grand staff for each instrument.

Example 3.22: op. 67, i, mm. 442-451.

In mm. 479-82, the double bass is in written unison with the cello down to D. Given the presence of the above accommodations, these measures can safely be called labelled as oversight. Careful editing resumes in the last measure of the movement, where double-stopped Cs are written for the cello, and single c, inside the staff, for double bass.

The slow movement of this symphony once again suggests the possibility of scordatura to E-flat. Use of E-flat is made in mm. 7, 9, 56, 58, 105, 113, 184, 191, and 204. Four of these (mm. 7, 56, 105, and 113) occur in non-unison situations. It is certain that at least one contrabassoon would have

been present in early performances of this work, since the instrument is specifically called for in the last movement. It is therefore quite possible that Beethoven intended these pitches to be played by the contrabassoon, but the tendency to assume E-flat in slow movements argues for re-tuning of the bottom string for this movement, whether contrabassoon was present or not. Examples such as mm. 7-9 and 57-59, where the double bass is alone on its part, suggest that Beethoven thought this E-flat was playable on the double bass, or perhaps that he understood it would be reinforced by the contrabassoon in performance. However, the tendency for the bassoon to be tacet in slow movements argues against this solution. The first beat of measure 191, which contains both E-flat and D for cello and double bass in written unison, is most likely uncorrected for the compass of the double bass. Measures 235-40 (example 3.23), on the other hand, are clearly written around the limitations of the double bass:

The image shows a musical score for Cello and Double Bass, measures 235-40 of Op. 67, ii. The score is in 3/8 time with a key signature of three flats. The Cello part (top staff) begins with a 'cresc.' marking and features a triplet of eighth notes in measure 238, marked 'f'. The Double Bass part (bottom staff) also begins with a 'cresc.' marking and features a triplet of eighth notes in measure 238, marked 'f'. Both parts end with a final cadence in measure 240.

Example 3.23: op. 67, ii, mm. 235-40.

Two parallel measures from this movement discussed above in chapter 2 give a clear example of what I would argue is a proofreading error: measure 31 has low C for both cello and double bass, while the same cadence in measure 80 has the double bass part corrected to c. The fact that the correction has

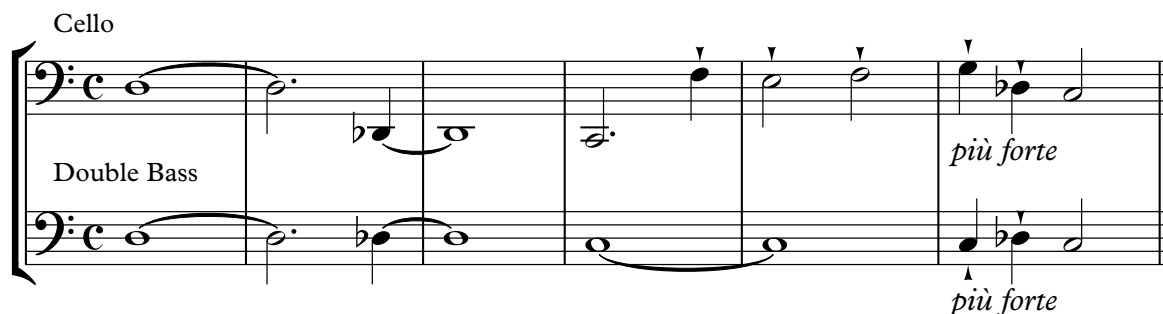
been made in measure 80 argues strongly that the same correction has simply been overlooked in measure 31. The third movement of op. 67 has several iterations of E-flat in the scherzo (mm. 39, 41-3), but nothing at all below F in the trio. The E-flats in the scherzo are most likely explained by lack of editing, as they are in written unison with the cello part. However, these could also have been left for the contrabassoon. Interestingly, E-flat seems to be avoided in measure 136, where the cello part goes down to into the lower octave.

The fourth movement of the Fifth Symphony has contrabassoon specifically indicated in its scoring. It is therefore most likely that the unplayable pitches in this movement were intended for the contrabassoon, and not by double bass, since Beethoven's awareness of the lower compass of the double bass is clearly demonstrated elsewhere in this symphony. Strangely, accommodations made for the compass of the double bass, for example in measure 3 (example 3.24), also appear in the contrabassoon part, where they are not necessary. As discussed in chapter two, this indicates that the same part was used for both contrabassoon and double bass; a separate part was not composed for the contrabassoon. It seems most likely that Beethoven would have preferred the contrabassoon to follow the cello voice in this and other instances—the accommodation is clearly made for the double bass. Measures 8, 10, and 12 (they are identical) would require transposition on the double bass, but are playable on the contrabassoon. Measures 1-3, however, show clear accommodation for the double bass:



Example 3.24: op. 67, iv, mm. 1-8.

Measure 32 has an obvious correction for the compass of the double bass, as discussed in chapter two (see pp. 45-6). The parallel spot, in measure 238, lacks a similar correction. It is most likely that Beethoven would have wanted the contrabassoon to follow the cello voice in this instance, maintaining the sixteen-foot octave doubling. Further study of source materials may provide further insight into this point. Measure 80 seems once again to lack a correction for double bass, but is playable on the contrabassoon. The transposition of this material (mm. 80-81) in the second ending is also playable (though difficult!) on the double bass. In mm. 118-21 (example 3.25) Beethoven again makes obvious accommodation for the compass of the double bass:



Example 3.25: op. 67, iv, mm. 117-22.

As far as the bass part is concerned, op. 67 seems somewhat haphazardly edited. However, awareness of the compass of the double bass is demonstrated

clearly enough at numerous points, even if it is overlooked on some occasions. Given the presence of the contrabassoon in the scoring of the fourth movement, one might speculate that Beethoven was less concerned with careful editing for the double bass.

h. Symphony 6, op. 68

The first revealing accommodation for the double bass in the Sixth Symphony occurs in mm. 115-27. Beethoven takes the cello down to its open C string, but clearly indicates the double bass on c, well inside its lower compass. The passage continues with a diminuendo to m. 135, using the cello's C string all the way, while the double bass rests from m. 127. The passage from mm. 175-81 seems uncorrected for the double bass. However, the inclusion of contrabassoon on the program for early performances of this piece (for the fourth movement of op. 67) implies that it might have been deployed for this piece too; this passage is certainly playable on the contrabassoon. In measures 196 and 245, D is written for cello while the double bass rests. Measures 314-321 (example 3.26) also contain a revealing accommodation for the double bass:

The image shows a musical score for two instruments: Cello and Double Bass. The score is for measures 314-321 of the Sixth Symphony, op. 68. The Cello part is written in the upper staff, and the Double Bass part is written in the lower staff. Both staves are in 3/4 time and have a key signature of one flat (B-flat). The Cello part consists of eighth notes, while the Double Bass part consists of quarter notes. The notes for the Cello are: G2, F2, E2, D2, C2, B1, A1, G1. The notes for the Double Bass are: C2, B1, A1, G1, F1, E1, D1, C1.

Example 3.26: op. 68, i, mm. 314-21.

In the first four measures of the above example, the double bass note is the same (written) pitch as the bottom of the alternating figure in the cello; in m. 318 it switches to the upper one. Similarly, measures 366-72 show accommodation for the double bass: the entire melody in the double bass part is written up an octave from where the cello part is written. Interestingly, this melody does not descend below E, so the passage as written for cello is playable "as is" on double bass. Perhaps Beethoven decided that a true unison was what he wanted here, or perhaps he momentarily fell back on earlier habits, mistaking the lower compass of the double bass for F once again. (This phenomenon sometimes occurs in entire works, for example op. 113, op. 115 and op. 124.)

In the second movement, the E-flat in measure 5 is perhaps intended for the *gli altri* cellos, and simply lacks a correction for double bass. Measures 10-12 (and 94-95) show this same material with the correction made, supporting the argument for oversight in this instance. Similarly, the E-flat in measure 118 is also a good candidate for oversight in proofreading. However, the consistent appearance of E-flats in a slow movement yet again suggests the expectation of re-tuning of the bottom string for these notes.

The third movement of op. 68 has nothing at all below F for the double bass. Measures 131 and 335 use the open C string for cello while the double bass rests. Problematic measures for double bass in the fourth movement, the infamous "storm" scene, are: 41-43, 49-50, and 135-6. It is simply not conceivable that Beethoven imagined these passages to be executable on the double bass. Two solutions are therefore possible: First, that these notes were meant to be executed by contrabassoon; or second, that they lack correction for the compass of the double bass, and should be played an octave higher. As mentioned above, both explanations may obtain simultaneously.

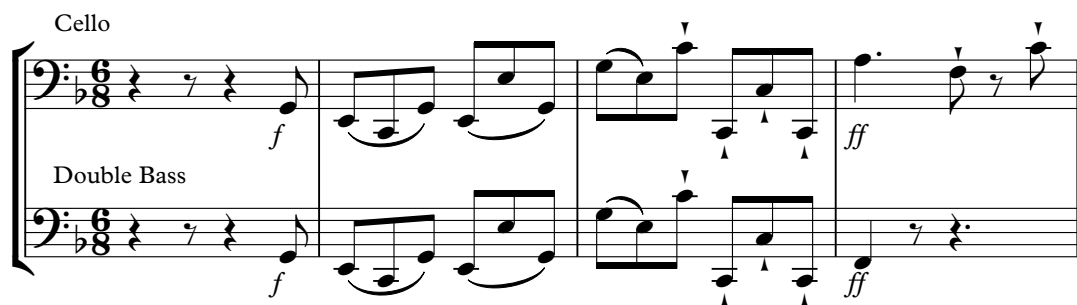
The fifth movement of op. 68 has many more problematic notes for double bass than the “storm” movement, but also shows several accommodations for the double bass. In measure 15, the cello once again lands on its open C string while the double bass rests. The D in measure 45 (example 3.27) is almost certainly an oversight, especially given what precedes it in m. 43 and follows in m. 47, which are clear accommodations for the lack of low C on the double bass:

Example 3.27: op. 68, v, mm. 43-8.

Measures 151-7 (example 3.28) are carefully edited to account for the compass of the double bass:

Example 3.28: op. 68, v, mm. 151-8.

But the same cannot be said of measures 175-6 (example 3.29), which seem to lack similar editing:



Example 3.29: op. 68, v, mm. 174-7.

Similar oversights occur in measures 192, 205, 221, 225, and the arpeggiated figure from 254-7. Execution by contrabassoon is a possibility in all of these places; the likelihood of this possibility is increased by the circumstance of its inclusion in the scoring of op. 67.

i. *Leonore No. 2 and No. 3 Overtures*, op. 72

Comparison between the *Leonore No. 2* and *No. 3* overtures is particularly revealing. The first of them, *No. 2* (*Leonore No. 1* was chronologically the last by a number of years, and was given both its opus number and “*No. 1*” by the publisher), has fourteen problematic notes in its bass part. The majority of these can reasonably be called oversights, but there are two low Cs (measures 104 and 106) that do not occur in written unison with the cello part. *Leonore No. 3*, however, corrects all of these instances but one (the D-sharp in m. 16, m. 19 in *No. 2*). It is not clear whether the compass of the double bass was among the motivations for the newer version—certainly there are other differences between the two. Nevertheless, this issue seems to have been addressed with thoroughness in this revision of the overture. Apart from the D-sharp in measure 16, nothing remains below E for either cello or double bass in the *No. 3* overture, except for three instances where D and C are written for the cello; the double bass

part is corrected for all of these instances. Measures 377-8 have D and C for cello, while the double bass jumps up an octave to avoid the unplayable notes. Measures 451-2 show a similar accommodation, where the cello again has D and C and the double bass leaps upward to avoid them. Finally, in measures 577-8 the cello starts the syncopated arpeggio material from C, while the double bass starts on c and then joins in the lower octave from E in 578. Beethoven demonstrates a very clear awareness of the lower compass of the double bass in the revised No.3 overture.

j. Piano Concerto No. 5, op. 73

Already in the first measure of this piece (example 3.30), Beethoven's awareness of the compass of the double bass is evident:

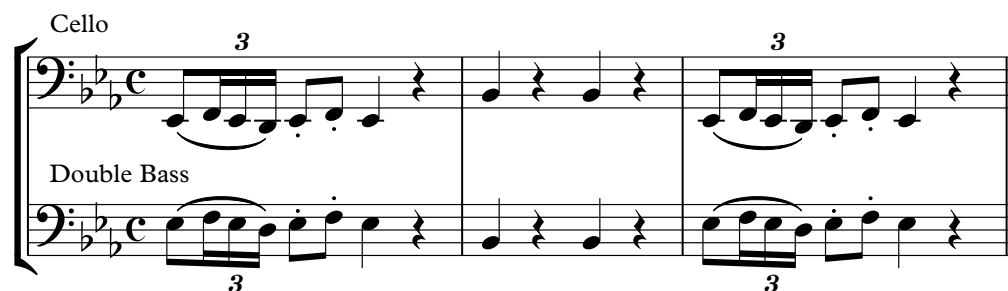
The image shows a musical score for the first two measures of Beethoven's Piano Concerto No. 5, op. 73. The score is written for five instruments: Violin I, Violin II, Viola, Cello, and Double Bass. The key signature is three flats (B-flat, E-flat, A-flat) and the time signature is common time (C). The notation shows the following details:

- Violin I:** Measures 1 and 2 are mostly rests. A half note G4 is written in measure 2.
- Violin II:** Measures 1 and 2 are mostly rests. A half note G4 is written in measure 2.
- Viola:** Measures 1 and 2 are mostly rests. A half note G4 is written in measure 2.
- Cello:** Measures 1 and 2 are mostly rests. A half note G4 is written in measure 2.
- Double Bass:** Measures 1 and 2 are mostly rests. A half note G4 is written in measure 2.

The score is presented in a system with five staves, each labeled with its instrument name. The notation is in standard musical notation with a treble clef for Violin I and II, and a bass clef for Viola, Cello, and Double Bass.

Example 3.30: op. 73, i, mm. 1-2.

All strings are marked *ff* and use their lowest possible register. If any doubts remain, a look at measure 3, where cello and double bass now resume written unison, will dispel them. Given this accommodation, the E-flat appearing in measure 90 can safely be called an oversight. Interestingly, as in earlier works, a lower compass of F seems to be assumed here; in any case, the note E does not appear at all, though its appearance would perhaps be somewhat unusual given the key. Passages such as that appearing in 58-61 are potentially simplified by having F as the lowest string rather than E. Accommodation for the double bass can also be found in mm. 99-101 (example 3.31):



Example 3.31: op. 73, i, mm. 99-101.

Measures 231-4 and 254-8 show once again that written unison/sounding octaves is the preferred disposition for the cello/double bass pairing, and that mm. 99-101 are therefore corrected in deference to instrumental limitations. In measures 206-11 Beethoven writes the solo cello in its lowest register, using E, E-flat, and D, all while the double bass rests. These pitches are avoided while the double bass is playing.

The second movement of this piece has no notes below F for double bass. The third movement continues with the same careful editing seen in the first. Measures 16-22 (example 3.32) show deliberate accommodation of the double

bass, and in this light the single E-flat in m. 30 can safely be labelled an oversight.

Example 3.32 shows a musical score for Cello and Double Bass, measures 16-22. The Cello part is in 6/8 time, key of B-flat major. The Double Bass part is in 6/8 time, key of B-flat major. The score shows a sequence of notes and rests with dynamic markings *f* and *sf*.

Example 3.32 op. 73, iii, mm. 16-22.

Measures 261-7 show the same accommodation as mm. 16-22, and the oversight from m. 30 is repeated in m. 275. Measure 360 also demonstrates accommodation of the double bass, avoiding the drop to E-flat.

k. Choral Fantasy, op. 80

This piece is written entirely within the compass of the double bass, and assumes a low boundary of E. The work contains only one revealing accommodation for the double bass, which occurs near the end of the piece, in measures 590-95 (example 3.33):

Example 3.33 shows a musical score for Cello and Double Bass, measures 590-96. The Cello part is in 6/8 time, key of B-flat major. The Double Bass part is in 6/8 time, key of B-flat major. The score shows a sequence of notes and rests with dynamic markings *ff*.

Example 3.33: op. 80, mm. 590-96.

1. Egmont Overture, op. 84

The Egmont overture seems to assume E-flat is playable on the double bass, but clearly avoids C, which is used extensively in the cello part. E-

flat appears in mm. 3, 11, 74-81, 148, and 245 for the double bass. It is possible that Beethoven expected a re-tuning of the bottom string for this work; on the other hand, since all occurrences of E-flat are in written unison with the cello, it seems most likely that these are proofreading oversights. However, the following accommodations for the compass of the double bass can be observed:

The musical score for measures 47-65 of Op. 84 shows a Cello and Double Bass part. The Cello part is in the upper staff, and the Double Bass part is in the lower staff. Both parts are in 3/4 time and have a key signature of three flats. The Cello part has a C pedal point in the first staff, with a 'cresc.' marking. The Double Bass part has a C pedal point in the second staff, with a 'cresc.' marking. Both parts end with a 'ff' (fortissimo) marking.

Example 3.34: op. 84, mm. 47-65.

The musical score for measures 162-70 of Op. 84 shows a Cello and Double Bass part. The Cello part is in the upper staff, and the Double Bass part is in the lower staff. Both parts are in 3/4 time and have a key signature of three flats. The Cello part has a C pedal point in the first staff, with a 'sfp' (sforzando piano) marking. The Double Bass part has a C pedal point in the second staff, with a 'pizz' (pizzicato) marking. Both parts end with an 'arco' marking.

Example 3.35: op. 84, mm. 162-70.

Measures 47-65 (example 3.34) have a C pedal for cello, but the double bass part stops at E. Measures 162-70 (example 3.35) also take the cello down to C, but the double bass remains at F or above; again in 181-200, the parallel

situation to 47-65, C is used for cello alone, while the double bass remains at E or above. Measures 74 to 81 have cello and bass sitting on an E-flat pedal in written unison; this is likely to have been an oversight, given the other corrections, but the expectation of either scordatura or the inclusion of contrabassoon are both possibilities.

m. Symphony No.7, op. 92

The Seventh Symphony clearly assumes a lower boundary of E, and also has quite a number of instances that can easily be labeled proofreading oversights. Beethoven is known to have used contrabassoon on at least one performance of this work, so the possibility that the low pitches remaining in the part were meant for contrabassoon cannot be excluded. In the first movement, there are four instances where Beethoven accommodates the lower compass of the double bass. First, in m. 30 of the introduction, the cello plays C while double bass has c (example 3.36). The previous measure is a written unison on b, and measure 31 returns once again to written unison. The cello then has C again in 32. This passage accommodates the lower compass of the cello as well as the double bass: it seems likely that Beethoven would have written low B for cello in mm. 29 and 31 if that were a possibility. Next, in m. 171 (example 3.37), the d-sharp to e grace note figure would clearly have been written in the lower octave if Beethoven had thought it possible; all other strings start as low as possible and continue upward. A similar correction is lacking in measure 177. Third, in measure 349, the bass

Cello

Double Bass

Example 3.36: op. 92, i, mm. 29-32.

Violin 1

Violin 2

Viola

Cello/
Double Bass

Example 3.37: op. 92, i, mm. 171-8.

leaps up to *f* in the second half of the bar, while the cello continues downward, and remains in the lower octave for the next three measures (example 3.38):

Cello

Double Bass

dim

p

dim

p

Example 3.38: op. 92, i, mm. 349-52.

Finally, in measures 401-22 (example 3.39), the double bass is written up in the higher octave for the duration of this ostinato figure, while the cello starts on D:

Example 3.39: op. 92, i, mm. 401-4.

The second and third movements of op. 92 have nothing below E. The fourth movement has several instances demonstrating accommodation of the lower compass of the double bass, starting with measures 104-10 (example 3.40). Here Beethoven takes the cello to the lower octave and keeps the double bass up:

Example 3.40: op. 92, iv, mm. 104-110.

The same scenario occurs five more times in this movement: in mm. 114-21; at the second ending to mm. 128; in mm. 319-32; in mm. 431-4; and finally in mm. 447-50.

n. Symphony No. 8, op. 93

The opening of the Eighth Symphony (example 3.41) demonstrates a clear awareness of the double bass and its lower compass:

Cello

Double Bass

Example 3.41: op. 93, i, mm. 1-4.

Measures 100-3 accommodate the lower compass of the double bass yet again. Parallel spots, for example in mm. 132-5 or mm. 297-300, maintain octave doubling, so it seems quite likely that Beethoven would have written the same in this case if he had thought it possible. The same scenario occurs again in measures 184-7. Measures 261-6 (example 3.42) also accommodate the double bass, while the cello part descends to C:

Cello

Double Bass

Example 3.42: op. 93, i, mm. 261-6.

The second movement of op. 93 has nothing at all written below E. The third movement, however, has several passages demonstrating accommodation of the double bass, and contains a passage for cello alone, which uses its lowest register to the fullest extent while the double bass plays a *pizzicato* accompaniment. Interestingly, this accompaniment is written down to C, suggesting either proofreading error (most likely) or the inclusion of contrabassoon (less likely, given the tendency for bassoon to be tacet in slow movements). As with op. 92, inclusion of contrabassoon is verified in at least one performance of this piece, as discussed in chapter two.

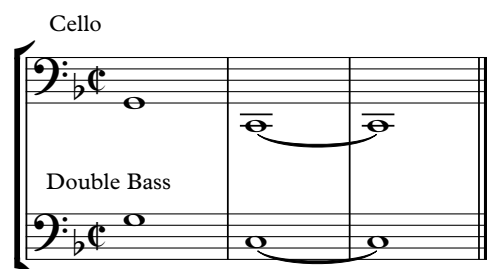
The fourth movement of op 93 shows accommodation of the double bass already in mm. 17-18 (example 3.43), with a low C-sharp written for cello, and c-sharp for double bass. The same material occurs again in mm. 178-9.

The image shows a musical score for Cello and Double Bass. The top staff is labeled 'Cello' and the bottom staff is labeled 'Double Bass'. Both staves are in bass clef with a key signature of one flat (B-flat) and a common time signature (C). The Cello part has a whole note C-sharp (C#) in measure 17, marked 'ff', and a half note C-sharp in measure 18, marked 'sempre f'. The Double Bass part has a whole note C-sharp in measure 17, marked 'ff', and a half note C-sharp in measure 18, marked 'sempre f'.

Example 3.43: op. 93, iv, mm. 17-18.

Interestingly, the high a' in mm. 117/119 and mm. 142/145 is considerably easier to execute on an instrument with a top string tuned to a, like both the cello and the Viennese violone. This sensitivity in writing melodic or virtuosic figurations and passages for both cello and double bass is found repeatedly in Haydn's orchestral music, and is discussed in detail by

Edgerton.³ Here it can be argued that Beethoven shows similar sensitivity. Further accommodation of the compass of the double bass is found in mm. 233–5 (example 3.44), where the low C is clearly avoided for double bass; and in mm. 372–9, where C-sharp and D-flat are clearly avoided.



Example 3.44: op. 93, iv, mm. 233–35.

o. *The Ruins of Athens Overture*, op. 113

This piece contains nothing below F for either cello or double bass, and the two parts are in written unison throughout. In these respects Beethoven appears to revert to earlier conventions in this late work.

p. *Namensfeier Overture*, op. 115

This piece shows clearly Beethoven's awareness of the lower limits of the double bass, and at the same time demonstrates his effective use of the lowest register of cello in spite of these limitations. Two low Cs (mm. 57 and 102) appear in the double bass part, but these can almost certainly be labeled as oversights in proofreading—both occur in passages where the cello and double bass are at written unison. The bass part in this work seems to be among the most carefully edited in the repertoire, exhibiting both extensive separation of cello and double bass on the one hand, and careful

³ Edgerton, "Bass Part," chs. 5 and 6.

accommodation for the compass of the double bass on the other. **BW** places the cello and double bass parts on separate staves throughout, but, as with any work, they are almost certainly not written this way in source material.

Already in m. 1, the cello has the double-stop C-c, while the double bass has only c. The same arrangement occurs again in m. 6. In mm. 34-36, Beethoven has the cello once again on its open C string while the double bass rests. Just a few measures later, from mm. 45-53 (example 3.45), the cello leans heavily on its C string while the double bass remains within the staff:

Example 3.45 shows a musical score for Cello and Double Bass, measures 45-53. The Cello part is on a single staff with a bass clef and a 6/8 time signature. It features a series of eighth-note patterns, often with double stops, and rests. The Double Bass part is on a single staff with a bass clef and a 6/8 time signature. It features a series of eighth-note patterns, often with double stops, and rests. Dynamics include *f*, *sf*, *ff*, and *p*.

Example 3.45: op. 115, mm. 45-53.

Measures 55-7 show a descending arpeggio that culminates in C for both cello and double bass. Given the previous accommodations, this can safely be called an oversight. The same can be said of m. 102, which seems to be an uncorrected unison. Measures 117-25 (example 3.46) suggest that Beethoven assumed a lower compass of F for this piece, perhaps showing a reversion to earlier habits:

Example 3.46 shows a musical score for Cello and Double Bass, measures 117-25. The Cello part is on a single staff with a bass clef and a 6/8 time signature. It features a series of eighth-note patterns, often with double stops, and rests. The Double Bass part is on a single staff with a bass clef and a 6/8 time signature. It features a series of eighth-note patterns, often with double stops, and rests. Dynamics include *f*, *sf*, and *p*.

Example 3.46: op. 115, mm. 117-25.

In fact, aside from the two Cs mentioned above, there is nothing below F for the double bass in the entire piece. This same accommodation occurs again in mm. 186–7. In m. 164, the cello’s open C string is used once again while the double bass remains on c. In mm. 255–8, the cello, along with all other strings, has three- and four-note chords, while the double bass has single notes well within its compass. Measure 313 once again finds the cello (and the viola) leaning heavily on its open C string while the bass has only c. The final three bars (example 3.47) are illustrative, showing all strings with maximum use of their lowest C-major pitches, including, of course, the double bass:

Example 3.47: op. 115, mm. 333–5.

q. *King Stephen Overture*, op. 117

This overture was mentioned and discussed briefly in connection with the hypothetical compositional procedure for Beethoven’s bass parts proposed

in chapter 2. For the purposes of this study, the piece is most interesting for its inclusion of contrabassoon. As in op. 67, it is evident that the contrabassoon part is constructed from the double bass part, and once again accommodations are included that are unnecessary for the lower compass of the contrabassoon. Examples are mm. 5-8 and mm. 21-4, where the contrabassoon could—and probably should—play the lower octave with the cello; the accommodation is clearly designed for the double bass. Measures 144-51 provide an interesting example that has implications for both how the parts were written, and how the contrabassoon part was constructed; this example was discussed in chapter two (see pp. 62-3). All pitches below E in this piece are in places where the double bass is in written unison with the cello part, so that they seem to be oversights in proofreading. However, in this case Beethoven did know that the contrabassoon would be present, and could have left them in the part for this reason.

r. *Die Weihe des Hauses* Overture, op. 124

Op. 124 is a revised version of the overture to op. 113. Yet again in this late overture Beethoven seems to revert to earlier conventions of bass part writing. In this piece there is nothing whatsoever below F for the double bass, and the open C string of the cello is utilized in three instances. The first of these is already in m. 1, followed by mm. 41-42. The last two measures, mm. 285-86, once again take advantage of the resonance of the open C string while keeping the double bass inside of its lower compass.

s. *Symphony No. 9*, op. 125

Beethoven seems to have left the editing of the bass part for the Ninth Symphony unfinished. This is particularly clear in the first movement. The

part is carefully edited for the compass of the double bass until about m. 100, and after that it seems to be completely left alone. In mm. 18-19 (example 3.48), the compass of the double bass is clearly accommodated:

Example 3.48: op. 125, i, mm. 18-19.

A similar accommodation occurs in m. 52. After this point, with the possible exception of mm. 102-3 and mm. 106-7, where the bassoons split D and d but the cello and bass remain on d, the part appears entirely unedited for double bass. There are numerous appearances of C-sharp and, especially, D. In this respect the first movement of op. 125 supports the hypothetical procedure outlined in chapter 2, where the bass part is first composed using the compass of the cello (and the contrabassoon), and then later edited for double bass. It seems that Beethoven simply did not finish the task, and where he left off is clearly visible in the part. The second movement also makes extensive use of C and D, and seems to have been entirely unedited for double bass. The trio, however, has nothing below E. Interestingly, sections in the scherzo where the double bass part is separate from the cello do not go below E; sections with low notes are all written unisons, suggesting once again a lack of thorough editing in the unison sections.

2. Analysis and Conclusion

The bass parts in works from op. 55 to 125 show a wide range of approaches to writing for the double bass. At certain times internal cohesion is apparent, even when a compass lower than E or F is assumed, and at other times such cohesion is lacking. Certain works and single movements seem to assume a lower boundary of at least E-flat. This frequently occurs in slow movements, although this is not always the case. This tendency agrees with both Johann Hindle's 1854 claim for the effectiveness of the low E in "Adagios and in pianos," and with Focht's description of the practice of variable tuning of the bottom string. A series of late overtures (opp. 113, 115, and 124), are written in such a way that they could just as well be included in the first group of works, op. 15 to op. 50. These contain nothing whatsoever below F for the double bass, but on occasion make effective use of the cello's bottom register. Works in this group consist of 50 movements or single-movement works. 15 of these, or 30%, contain nothing at all below either F or E. The total number of notes exceeding the boundary of E is 417; of these, only 24, or 5.8%, occur in non-unison contexts, which is to say that they are less likely be explained by proofreading error. Thus 94.2% of out-of-range pitches in op. 55 to op. 125 occur when written unison obtains between cello and double bass.

Symphonies in this group are the most problematic in terms of their editing for the double bass. With the exception of op. 93, these contain numerous instances of pitches below the compass of the double bass. A great many of these can safely be labelled oversights, since Beethoven demonstrates his awareness of the compass of the double bass with numerous accommodations throughout these works. The preparation by hand of a set of parts for the performance of a symphony would indeed have been a daunting task, and it is

perhaps not surprising that some of the minutiae on occasion might have been neglected. Shorter works such as overtures presented less of a challenge in this respect, and this may explain their more careful editing as a group. Symphonies were certainly Beethoven's most highly anticipated works. In addition to writing and editing the music, the composer had to manage all of the logistical aspects of the performances, which may well have infringed upon his available resources—temporal, physical, and mental—for the careful editing of bass parts. Moreover, inclusion of the contrabassoon to reinforce the bass part in the sixteen-foot octave is a factor that could have made Beethoven less concerned about the careful editing of these parts. Still, it remains clear that Beethoven accommodated the compass of the double bass throughout his orchestral music, from op. 15 to op. 125. His demonstration of this awareness suggests that instances where that same accommodation is lacking are likely to be cases of simple oversight.

TABLE 3
Out-of-Range Notes in op. 55 to op. 125

Opus no./ mvt.	Lowest Note cb	Notes below E for cb measure no: pitch	Unis vc? Y/N
55/i	C	42: Eb	Y
		254: C	Y
		346-60: C, Db, Eb	Y
		486: Eb	Y
		512: Eb	Y
55/ii	Eb	3: Eb	N
		107: Eb	N
		181: Eb	N
55/iii	F	none	
55/iv	D	84: Eb	Y
		213: D	Y
		217: D (2x)	Y
		221: D	Y
		225: D (2x)	Y
		233: D (2x)	Y
		241: D (2x)	Y
		245: D	Y
		357: Eb	Y
		400: Eb	Y
		403-407: Eb (8x)	Y
56/i	C	72: D	Y
		74: C	Y
56/ii	Eb	3: Eb	Y
		12: Eb	Y

TABLE 3 (Continued)

Opus no./ mvt.	Lowest Note cb	Notes below E for cb measure no: pitch	Unis vc? Y/N
(56/ii)		23: Eb	Y
56/iii	C	59-61: C (2x)	Y
		76-77: D (2x)	Y
58/i	D	65-66: D, Eb	Y
		97: D (2x)	Y
		99: D (2x)	Y
58/ii	E	none	
58/iii	D	248: Eb	Y
		351: Eb	Y
		353: Eb	Y
(58/iii)		401: D	Y
		490: D	Y
60/i	Eb	245: Eb	Y
60/ii	C	33: Eb	Y
		53-4: Eb, Db	Y
		100-01: C, D, Eb	Y
		104: Eb	Y
60/iii	F	none	
60/iv	Eb	103b: Eb	
61/i	D	334: D	Y
61/ii	F	none	
61/iii	F	none	

TABLE 3 (Continued)

Opus no./ mvt.	Lowest Note cb	Notes below E for cb measure no: pitch	Unis vc? Y/N
62	D	45-50: Eb (5x), D (4x)	N
		254: Eb	Y
67/i	D	479: Eb	Y
		481-2: D	Y
67/ii	C	7: Eb	N
		9: Eb	Y
		31: C	Y
		56: Eb (3x)	N
		58: Eb	Y
		105: Eb (3x)	N
		113: Eb	N
		184: Eb	Y
		191: D, Eb	Y
		204: Eb	Y
67/iii	Eb	39-43: Eb (4x)	Y
67/iv	C	8-12: C, D (3x ea.)	Y
		80: C	Y
		214-18: C, D (3x ea.)	Y
		238: C	Y
		431: C	Y
68/i	D	175-81: D (6x)	Y
68/ii	Eb	5: Eb	Y
		118: Eb	Y
68/iii	F	none	

TABLE 3 (Continued)

Opus no./ mvt.	Lowest Note cb	Notes below E for cb measure no: pitch	Unis vc? Y/N
68/iv	C	41-43: C, Db, Eb	Y
		49-50 C, D, Eb	Y
		135-6: C, D	Y
68/v	C	45: D	Y
		49: D	Y
		175-6: C (3x)	Y
		192: D	Y
		205: C	Y
		221: D	Y
		225: C	Y
		254: C	Y
		257: C	Y
72/no.2		19: D#	Y
		29: C# (3x)	Y
		35: Eb (5x)	Y
		104: C	N
		106: C	N
		307: Eb	Y
		478: C	Y
		485-6: C	Y
72/no.3		16: D#	Y
73/i	Eb	90: Eb (2x)	Y
73/ii	F#	none	

TABLE 3 (Continued)

Opus no./ mvt.	Lowest Note cb	Notes below E for cb measure no: pitch	Unis vc? Y/N
73/iii	Eb	30: Eb	Y
		275: Eb	Y
80	E	none	
84	Eb	3: Eb	Y
		11: Eb	Y
		74-81: Eb (8x)	Y
		148: Eb	Y
		245: Eb	Y
92/i	C	40-1: C (3x)	Y
		122: D#	Y
		137: C	Y
		142: D#	Y
		144: D#	Y
		146: D#	Y
		177: D#	Y
		218-19: C# (6x)	Y
		366-67: D (2x)	Y
		373-74: D (2x)	Y
		425: D	Y
		432-3: D# (6x)	Y
		434-5: D (6x)	Y
		436: C#, D (2x)	Y
		438: D (3x)	Y
		440: D (3x)	Y

TABLE 3 (Continued)

Opus no./ mvt.	Lowest Note cb	Notes below E for cb measure no: pitch	Unis vc? Y/N
92/ii	E	none	
92/iii	E	none	
92/iv	C	13: D (2x)	Y
		14: C# (2x)	Y
		15: D (2x)	Y
		16: C#	Y
		18: C#	Y
		138: D#	Y
		140: D	Y
		142: C#	Y
		144-5: C (2x)	Y
		259: D	Y
		318: C#	Y
		386-408: D# (22x)	Y
		413-16: D# (4x)	Y
		446: D	Y
93/i	E	none	
93/ii	E	none	
93/iii	C	67: C	N
		71: C	N
		73: C	N
93/iv	E	none	
113	F	none	

TABLE 3 (Continued)

Opus no./ mvt.	Lowest Note cb	Notes below E for cb measure no: pitch	Unis vc? Y/N
115	C	57: C	Y
		102: C	Y
117	D	144: D	Y
		145: Eb	Y
		147: D	Y
		149: D	Y
		151: D	Y
		221-2: Eb (2x)	Y
		476: Eb	Y
124	F	none	
125/i	C#	156: D (2x)	Y
		224-28: D (4x)	Y
		391: C#	Y
		395: C#	Y
		397: C#	Y
		426: D (4x)	Y
		531-8: D (8x)	Y
		541: D (2x)	Y
125/ii	C	6: D (2x)	Y
		93-108: C (32x)	Y
		143: C	Y

TABLE 3 (Continued)

Opus no./ mvt.	Lowest Note cb	Notes below E for cb measure no: pitch	Unis vc? Y/N
(125/ii)		151: D	Y
		268-283: D (16x)	Y
		350: C	Y
		374: D	Y
		536: D	Y
		623-38: (32x)	Y
		673: C	Y
		681: D	Y
		798-813: D (16x)	Y
		880: C	Y
		904: D	Y
125/iii	Db	73-80: D (8x)	N*
		133: Db	Y
		135: Eb	Y
125/iv	D	316-319: (11x)	N
		919: D	N

*Pitch content exactly the same as cello

CONCLUSIONS

The symphony orchestra as we know it today is an institution that took shape in the nineteenth century. Changes in orchestral size, practice, and instrumentation were certainly afoot in the period when Beethoven wrote most of his orchestral music, and he may even have been a driving force behind many of them. But by 1800, these changes had not yet taken hold, if they had even gotten underway, and many older conventions from the so-called "classical" orchestra would still have been in use in this transitional period. Practices surrounding the instrumentation of the "basso" voice in ensemble music from the late classical period have particular relevance for the problem elucidated in this study. This was one of many conventions that was abandoned in the course of the nineteenth century, as scoring for the instruments of the orchestra became increasingly specific. John Spitzer and Neal Zaslaw have pointed out that "by the end of the 1790s the stability and uniformity that had marked the orchestra for 50 years were eroding. From about 1815 on orchestras again entered into a period of rapid change."¹ Historical periods are never delineated by hard and fast boundaries, with old practices stopping one day and new ones starting the next. Nonetheless, the "period of rapid change" identified by Spitzer and Zaslaw did not begin until fifteen years after the first performance of Beethoven's first symphony, and still one year after the premiere of his eighth. My study indicates that older double bass conventions and usage—those of the mid- and late-eighteenth century—were still very much in use during the period of Beethoven's most intense activity as a composer.

¹ Spitzer and Zaslaw, *Birth of the Orchestra*, 337.

The double bass has a thoroughly complicated history, and untangling it has in no way been the aim of this study. But my research has shown that one version of its many forms—the Viennese five-string violone—was used more extensively in orchestral music than what has previously been assumed, and was more closely connected with the music of Beethoven than what has previously been suggested in the scholarly literature. This conclusion is supported by contemporary documents, and is clearly reflected in Beethoven's bass parts themselves. Beethoven's later assumption of a lower compass of at least E, from op. 55 and onward, does not conclusively indicate the use of the modern instrument tuned in fourths to E A d g, as many modern scholars and musicians have assumed. Neither does it preclude the Viennese five-string, since the tuning E A d f# a is also documented.

Still, the appearance of pitches down to C for double bass has remained a confounding problem. According to my research, many of these passages can be explained as ordinary lapses in editing. Yet Beethoven demonstrates his understanding of the proper compass of the double bass on so many occasions in his orchestral music that he must have been well aware of the instrument's limitations. It is difficult to be conclusive, even with the benefit of an examination of source materials, let alone without that benefit. But it seems unlikely indeed that Beethoven imagined the double bass to be capable of exceeding the same limitations that he demonstrably understood in the course of the same movement or work.

Still other possibilities rely on a clearer understanding of the early use of the contrabassoon. Vienna was an early center for the production and use of the contrabassoon, and Beethoven appears to have used the instrument to reinforce the double bass on at least two occasions in performances of works whose scores do not call for that instrument. The contrabassoon's lower

compass of C1—and the possibility that this practice was more extensive than what has previously been realized—may account for some measure of Beethoven's negligence in the editing of these parts. Deployment of the contrabassoon in this manner is certainly consistent with the instrumental flexibility found in the baroque and classical "basso" instrumentarium and its associated practices. The bass voice in ensemble music was not specifically intended for any one instrument, and instruments used for its realization often varied according to performance conditions and availability. However, bassoon was nearly always present in that ensemble, even where it was not specifically indicated. The fact that players often doubled on bassoon (or contrabassoon) and double bass strengthens this argument, since changes in the ensemble could thereby have been accomplished without the need of finding new players. Later, in the course of the nineteenth century, instrumental roles became more rigidly defined, and musicians became increasingly specialized. But the fact remains that the flexibility of these earlier practices stands at close remove to Beethoven and his musical environment in Vienna at the turn of the eighteenth century.

The practice of re-tuning the bottom string of the double bass as needed to pitches as low as D may account for some examples of notes below the compass of E. This practice seems to occur frequently in slow movements, which often imply a lower compass of E-flat for the double bass. Re-tuning for these movements may well have been expected of double bass players, and the efficaciousness of those pitches in the context of a slow movement is attested in sources. Presumably, it was too difficult to get the notes to speak properly in faster tempi. Beethoven's drive to expand the palate of the orchestra in its lowest register must have been strong, since this seems not to have stopped him from attempting to use them in several instances. What is

clear, in any case, is that Beethoven wanted to employ this register in his orchestral music. However, his awareness of the limitations he faced in employing that register are made equally clear by the numerous examples of accommodation for the double bass discussed in chapter three.

Expressed as a percentage of the total number of notes in all of Beethoven's bass parts—a number that I have not attempted to ascertain—the total number of out-of-range notes (417) must indeed be small. However, Beethoven writes carefully within the capabilities of all the other instruments of the orchestra, so why is the double bass exceptional in this regard? Probably the complicated history of the instrument itself is at least in part to blame, as this made the particulars of the instrument's capabilities difficult to know for certain at any given moment. Beyond that, lack of careful editing probably accounts for the majority of instances. 94.2% of all instances of out-of-range pitches occur when the cello and double bass are at written unison, which suggests that these passages lack proper editing for the double bass. Still, Beethoven's careful accommodation of the limitations of the double bass throughout his orchestral music makes clear that he was aware of the limitations of the instruments in use in his own environment, even as he sought to expand them.

More precise clarification of the questions raised and solutions proposed in this study—if indeed such is possible—can only come from further research with source material. Authentic sets of performance parts are likely to be the most revealing sources. This study has taken the position that published scores and parts reflect Beethoven's intentions, and has not in any way attempted to improve on the work of the scholars who have prepared those editions. I understand, however, that it is much more likely that the reality of the situation is significantly more complicated, and that the influence of

various copyists, editors, and musicians has left its mark on this material. It is certain, though, that the preparation of performance parts and editions by previous scholars has not been approached with the narrow focus on the double bass's particular history and capabilities that is presented in this study. Perhaps a new edition of these parts could more accurately reflect the complicated nature of this history. It is my hope that I have shed some small bit of light on that situation in these pages, and furthermore, that those interested in historically accurate performances of orchestral music from this period will consider the implications of what I have put forward here.

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